

**Mekelle University**  
**College of Business and Economics**

**Impact of Private Manufacturing Investment on Local Economy: A Case  
Study at Mekelle zone**

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## **Declaration**

**GETU HAILU BERHE** here by declare that the thesis entitled “Impact of Private Manufacturing Investment on the Local Economy; A Case Study at Mekelle Zone,” submitted by me to the award of the Degree of Master of Science in Economics (Development Policy Analysis) to College of Business and Economics, Mekelle University, through the department of Economics, is my original work and it has not been presented for the award of any other degree, diploma, fellowship or other similar titles of any other universities or institutions.

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## **Certification**

**This is to certify that the thesis entitled “Impact of Private Manufacturing Investment on the Local Economy; A Case Study at MekelleZone,” is an authentic work of Mr. Getu Hailu Berhe, ID.No.CBE/PE;095/05, who carried out the research under my guidance, certified further that to the best of my knowledge the work reported here does not form part of any project report or thesis on the basis of which degree or award was conferred on an earlier occasion by this or any other candidate.**

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**Weldegebrel Abrham (phD)**

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**Date-----**

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## **Abstract**

Good private manufacturing investment is a basic for the whole economy. However, many private investors in LDC's are not participated in manufacturing sector. Since Ethiopia is one of these LDC's its Economy depends on Agriculture. Therefore, private manufacturing investment is essential for the local as well as for the whole economy. The study used panel data collected from 205 respondents randomly selected sampled of private investors and workers of private firms from Mekelle city. The survey responses were analyzed through descriptive and econometric analysis using logit and multivariable regression model of analysis. Therefore, this study aims to determine the impact of private manufacturing investment on the local economy at Mekelle town. Data collected has been analyzed using both descriptive and econometric data analysis techniques. For the econometric analysis, this study employed the logistic regression model to analyze the dummy variables. And the multivariable regression model for the other variables that were out of the dummy variables. The descriptive technique also used for the characteristic and demographic of the respondents. The study concluded that the impact of private manufacturing investment has positive impact on the local economy and it may also lay some ground for further study related to the area.

Keywords: Impact, Private Manufacturing Investment, Local Economy, Logistic regression, multivariable regression model,

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## **ACRONOMY**

EEC - Ethiopian Economic Associations

EIA - Ethiopian Investment Agency

FDI - Foreign Direct Investment

FDRE – Federal Democratic Republic of Ethiopia

GDP - Gross Domestic Product

LDCs – Least Developed Countries

NGOs - Non-governmental Organizations

UNCTAD – United Nations Conference on Trade and Development

IMF -International Monetary Fund

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# **CHAPTER ONE**

## **1.1 Introduction**

Private Investment of manufacturing is essential for Economic Development because effective private investment utilize the economy in terms of employment, income generation and for the extra investment. The activity is powerful for the sake of economic growth. Depending on the importance of investment, the government updates the articles in order to encourage investment. Whereas the encouragement and expansion of investment especially, in the manufacturing sector, has become necessary so as to strengthen the domestic production capacity and there by accelerate the economic development of the country and improve the living standards of its people.(Proclamation No 769/2012).Many developing countries want and need private investment; they often fear that individuals or companies from other countries will become too economically and politically powerful within their country. If this happens, the nation's employment, wages and even social conditions might be greatly influenced by foreign investors. Private investment is an investment in production facilities by private firms. Not all foreign aid is given in the form of money, of coursesome aid is sent in the form of capital goods, suchas: machineries, technical assistance is a kind of foreign aid.(Dr. Lawrence W 1982)

Investment is known to be the engine of sustainable growth however the national level of saving is quite low consequent and the existing rate of savings. The Brussels declaration contain attainment of on investment to GDP ratio of 25% & an annual GDP growth rate of at 7% in order to achieve sustainable development& poverty reduction in LDCs ( UNCTAD. 2010 PS) .

Ethiopia is one of the world's poorest countries. According to MOFED (2011/12 ), out of a population of more than 80 million, estimated 27.6% of the population was living below the poverty line in 2011/12. The Ethiopian Economy has to grow at least at annual growth rate of double figure for more than two decades as that the country can attain the participate to increase income level achieved today. However, Ethiopia's gross domestic savings as proportion of GDP is quite low, and it is unlikely to achieve this growth rate by mobilizing the meager domestic savings (EEA, 2000 & 2007) Ethiopian Economic Associations. Structural adjustments are the policies implemented by the International Monetary Fund (IMF) and the World Bank in developing countries. These policy changes are conditions for receiving new loans from the IMF or World Bank or for obtaining lower interest rates on existing loans. These programs include

internal changes (notably privatization and deregulation) as well as external ones especially the reduction of trade barriers in the context of private investment. (Arrighi, Giovanni (2010).

The industrial policy plan of a country is its official strategic effort to encourage the development and growth of the manufacturing sector of the economy. The government takes measures aimed at domestic firms and promoting structural transformation. A country's infrastructure (transportation, telecommunication and energy industry) is a major part of the manufacturing sector that usually has a key role. (Bingham, Richard D. (1998).

Since the liberation of the Ethiopian Economy in 1992, the government has provided various incentive packages to attract foreign investors. Numbers macroeconomic reforms have been implemented with the objective of achieving macroeconomic stabilization & growth. The macroeconomic reforms include privatization of state owned enterprises, liberalization of trade policy, reduction of import tariff rates, elimination of non-tariff barriers, devaluation of price & exchange rate controls (UNCTAD, 2002).

Investment Incentives and Investment Areas Reserved for Domestic Investors. Exemption income tax for new enterprise, For Example, Food industry such as: processing of meat and meat products, Fish and Fish products Fruit and/or Vegetables manufacturing of edible oil and others can be exempted from income tax for 5 years. Vehicles, Trailers and Semi-Trailers industry such as: manufacturers of bodies/ Components for motor vehicles, trailers, manufacturing parts and accessories for motor vehicles and others can be exemption from income tax to four years. (Tax exemption Regulation No 270/2012)

In addition to the common exemption of income tax for investors who are exporting products/services have additional incentives. When investors export at least 60% of their products/services, they can take additional two years exempt from income tax. (Tax exemption Regulation No 270/2012).

In addition to income tax exemption there is also exemption of tax for the imported capital goods, construction materials and raw materials from custom duty. When an investor was not used the incentives of tax exemption he/she can use his/her right at any time. Regulation No 84/2003 as amended and directives issued there under has not yet exercised his/her right, options instead to be a beneficiary of incentives provided for this regulation.

On the other hand, there is incentive on the tax exemption in two ways. One is the manufacturers can be exempted from income tax and from imported capital goods. For

this purpose, the government is designed different articles and regulations in order to encourage investment. For example; Manufacturing is one of the key sectors of development and the government also encourage this sector through different reforms. One of them is investment and investment areas reserved for Domestic Investors. (Regulation No 84/2003)

According to the stated article, Mekelle Town Administration and Investment Bureau prepared 327 hectares as industry zone with the cost of 0.75 cents per m<sup>2</sup>. And 100 hectares have been taken for investors who are produced different kind of production and 100 hectares on the construction process the rest 127 hectare is reserved for new entrants of private manufacturing sector. (Investment Annual Report of 2005 EC Budget Year).

The Ethiopian Investment Agency (EIA) was also established in 1992 to promote private investment.

Depending on the Federal Investment Agency, Investors of manufacturing have opportunity in order to get Loan from Development Bank with the minimum interest rate. The Bank's contribution is 70% and 30% from the investors is covered the total investment cost. This is when the project is a biggner while there is an expansion the loan policy is 60% Bank's contribution and the rest 40% from the investors. In addition to this the Bank also has additional criteria which is focused the kind of production; basically the manufacturing must be on:

- ❖ Textile and Fabrics
- ❖ Garment factory
- ❖ Leather and Leather products
- ❖ Paper and Paper products
- ❖ Plastic Factories
- ❖ Non-Metallic Construction Materials (i.e Cement, Jipson, Marble and others)
- ❖ Sanitary Materials and others. ( Development Bank's Blousher, 2012)

Therefore, this is one of the incentives for the purpose of investment encouragement. The Impact of Foreign Direct investment on poverty reduction in Ethiopia can be expected in order to play

its own role. Depending on the importance of investment, the country designed the investment policy, in order to motivate investors to invest in Ethiopia.

According to the importance of the manufacturing sector, there are many reasons to invest on the private manufacturing investment different conditions are important for the sector. Such as:

- Stable Economic environment
- Liberalized Economy
- Security of investment
- Significant tax Environment
- Investment Opportunities
- Strong Market with excellent market access
- Strong natural resource Base
- Trainable labor
- Good infrastructure standards

Government should have been worked different activities and policies in order to create stable economy through different incentives and opportunities for the private manufacturing investors. Because Economic policies are vital to the ambition to deliver smart, sustainable and inclusive growth to development. So the task of economic governance for the future is to set the conditions for stable growth that will:

- foster competitiveness among private investors to help them compete globally, develop their businesses and create new jobs;
- ensure sustainable public finances to protect pensions and welfare systems; and
- reinforce financial stability to protect economies, jobs and prosperity against external shocks.

Economic liberalization has been the central part of mainstream policy advice for at least 20 years, and has been actively picked up by most developing countries and economies in transition in the design of their development strategies. However, the intensive international discussion over

the benefits of trade liberalization and its welfare effects on developing countries and their societies is far from over. The search for consensus continues, while some simpler postulates like a freer trade alone brings more economic growth, which have beneficial effects on social life and leads to better living standards, including reduced poverty.

Public Infrastructures Investment increases the share of government purchases(G) in GDP, and the more GDP we devote to it, the less we have available to devote to something else , including the private investment that we defined by investment (I). Because investment (I) excludes public infrastructure investment, it is sometimes called gross private domestic investment. Public infrastructure Investment purchases of capital by government for use as public goods, which add to the productive capacity of the economy. Investment is just one of the uses of GDP; we know that GDP is also used for consumption, government purchases, and net export.

Symbolically,  $Y=C+I+G+X$

Where Y equals GDP, equals Consumption(C), equals government purchases (G)and equals net exports(X) . This equation can help determine how much of GDP is devoted to investment.

The investment share of GDP is the proportion of GDP that is used for investment .The investment share of GDP is defined as investment (I) divided by GDP, or I/P. When studying investment, economists frequently concentrate on the investment rate. For example, when the council of Econometric Adverse writes that the investment rate is 13 percent,” it means that  $I/Y=0.13$ , or 13 percent. (John B. Taylor. 2<sup>nd</sup> edition: Stanford University 1998 Public Infrastructure and Investment)

Therefore investment is expected to play its own role in the socio-economic and political situation of the country in general and specifically the town. Its role can be defined in terms of employment, market stabilityandincome generation so, assessment of the impact of private manufacturing investment is essential in order to achieve its objectives.

## **1.2Statement Of The Problem**

- ❖ Investment is the most essential for economic development, because in the modern world investment has become crucial means of development.
- ❖ Countries interact & exchange their experience such as using resources, means of production, technologies, information and others through investment.



- ❖ For Ethiopia ensuring food security stands out of the most pressing agenda now and for the coming decades, at present, according to (MOFED, 2011/12), out of a population of more than 80 million, estimated 27.6% of the population was living below the poverty line.
- ❖ There are many interrelated complex factors that have contributed for the worsening situation of human welfare in the country.
- ❖ Among other things, inadequate & invariable rainfall, high man land ratio & soil degradation and others are said to be the major ones.

Therefore, for the stated and other problems for our country specifically our town Mekelle, investment policy can be applied properly in order to play its own role for the economic development because the socio-economic and political problems can be solved through economic development. Hence, assessment on the impact of investment can be used to identify its problem and put recommendation for the short coming.

### **1.3 Objective Of The Study**

The general objective of the study was to assess the impact of private investment of manufacturing on local economy in Mekelle zone.

The specific objectives of the study were:

- To investigate the relationship between private investment of manufacturing with income generation of the private investors and the workers of private firms in the city.
- To examine whether there exists a causal relationship between privatemanufacturing investment and poverty reduction.
- To find out the role of private investment of manufacturing on employment, market stability and income generation in the town.
- To identify the contribution of private investment of manufacturing for the whole economy and to recommend some findings for the purpose of strengthening of private investment of manufacturing in the town.

### **1.5 Significance Of The Study**

The study might be significant in identifying the problem and its impact in the socio- economic activities, so the Investment office, Private manufacturing Investors and the workers of the private firms can strengthen and mitigate the weakness in their identifying daily activities.

The study plays its own role in identifying problems on the impact of private manufacturing investment on the local economy in terms of employment, market stability, and income generation. And as the result for the purpose of further investment as well as it may also serve as a starting point for many researchers who want to make research in the same area of the study. The result of the study will also provide the problems on the impact of private manufacturing investment to the authorized bodies such as the Regional and Zonal Bureaus of Investment, NGOs, and the Investors themselves.

### **1.6 Scope Of The Study**

The study focused on the impact of private manufacturing investment on the local economy. This study was limited to only 55 (40%) out of 137 private manufacturing investors and 150 (40%) out of 375 workers of the private firms and only the manufacturing sector. This study also focused on the impact of private investment of manufacturing on the local economy in general and specifically employment opportunity, market stability, and income generation on the side of both the private manufacturers and the workers of the private firms in Mekelle zone and the period covered is from 1985 E.C. until 2005 E.C.

### **1.7 Limitation Of The Study**

The study would try to assess the importance of private manufacturing investment on the local economy, however, it would not likely to say the paper would be free of limitation that the researcher might not comfort during the research period.

To mention some of the limitations were:

- ❖ Shortage of available reference materials,
- ❖ Lack of time, during the study, the working day and the study has shortage of time,
- ❖ The study might not cover all of the investors and the workers who are under the private investment of manufacturing in the town, and
- ❖ Shortage of source of secondary data in the zonal Investment Bureau and in the Investors' document.

### **1.8 Research Questions**

For the specific study of assessment on impact of private investment of manufacturing on the local economy in Mekelle linking with the issues of food security a number of questions have been raised & an attempt was made to address in the study report.

The major research questions were:

1. Is the expansion of private manufacturing investment having positive role for the local economy in terms of income generation and employment opportunity?
2. What are the employment opportunities of private investment of manufacturing in the town?
3. What are the major problems & constraints of private investment of manufacturing development in the study area in order to stable the labor market?
4. What measures are required to improve the performance of private investment of manufacturing schemes to increase income of the private manufacturers and the workers of private firms?

### **1.9 Organization Of The Study**

The paper would be organized as follows chapter one would be an introduction of the study, which contain statement of the problem, objective of the study, significance of the study, scope of the study, research questions, limitation of the study, research questions and organization of the study. Chapter two would contain theoretical literature and empirical review of the impact of private manufacturing investment in the local economy. Chapter three deals with the methodology of the study which contains description of the study area, research method, explanation of variables, data collection instrumentation, data source and data analysis would be discussed. Chapter four would be presented major results and discussions which deal the descriptive analysis, econometric analysis, opportunities and incentives for private manufacturing investment. And in chapter five the conclusion and recommendation would be made by addressing in the study.

## **CHAPTER TWO**

### **2. LITERATURE REVIEW**

Recognizing its importance; this study focused on the private manufacturing investment and attempts to make-up the analytical framework for the industrialization of the country. Specifically, some theories and concepts related to the sector have to be described briefly as theoretical review, on economic condition of Ethiopia today, due attention to the importance of private manufacturing is even more profound than what could be observed from the experience of many countries through empirical investigation. Theoretical Literature Review had written various literatures on private manufacturing investment by many researchers. Some of them were identified as follows:

#### **2.1 Theoretical Literature on the private Manufacturing Investment**

Private investment is an investment which is invested by individuals or group of individuals and it plays its own role in the economic growth within a state. Here, there are different factors applied for the purpose of economic growth which is act by the government but the performance of the government is very limited and it cannot achieve the growth independently. According to this point the government gives the opportunity for the private sector as well. So, Private investment can be get the opportunity in order to play its own role in the economic growth. In addition to the government economic activities, the contribution of the private sector is high and this helps the economy by creating employment opportunities, income generation, market stability and in general on poverty reduction . Sustained economic growth and in terms of employment opportunities and income generation is necessary for poverty reduction and require enhanced private sector investment resulting in economic growth, reduction in poverty and improved quality of life for the majority of the population. Private initiative, unleashed in competitive markets is key to promoting growth and poverty reduction in parallel with public sector efforts. Tax revenues generated by private markets and employments are critical to support public expenditure programs. Private Sector Development (PSD) is about enabling the enhanced utilization of labor and other resources of the country through the growth of private businesses by providing predictable and enabling environment both in domestic and overseas markets. PSD is about the maintaining a good balance between the complementary functions of the state and the private sector about judicious refocusing of the role of the state not about

indiscriminate privatization but about sound government policies that provide room for private initiative and that set a regulatory framework which channels private initiative in ways that benefit society as a whole. One of the major contributing factors to the economic crises of Ethiopia during the 1980s was the restrictive policy imposed on the activities of the private sector. At the beginning of the transition period i.e. 1991/92, it was obviously clear that without changes in the policy regime of the 1980s efforts to realize socio-economic recovery and sustained development would be futile. As a result, the New Economic Policy took the creation of an enabling environment for both domestic and foreign private investment as one of its objectives. The series of reforms since 1992/93 have shifted the policy regime of the 1980s and did go a long way to create enabling environment for private sector investment. Thus, the Poverty Reduction Strategy (PRS) now proposes to build on these reforms and broaden them into a comprehensive strategy for private sector development that is meant to foster a qualitative jump in the role of private activity in generating growth and supporting poverty reduction. (MoFED Annual Report 2012 )

The role of the private sector for sustained, pro-poor economic development has been clearly set out in the Government's legal, institutional development policy, strategy and programs. Because of the fact that the private sector is at its infancy stage struggling to get out of real and perceived handicaps, strong institutions of dialogue and consultation will be productive. Moreover, public sector institutions giving support and services to the private sector are still in their learning and development stage. This makes the establishment of public-private consultation forums an essential component of the government's PSD program. The efforts already underway will be nurtured for more advanced co-operation and partnership between the private sector and the Government. (MoFED2012)

Government Investment: Government investment is mainly determined by government revenue, and foreign aid. Hence the government investment equation is:

$$GI_t = \alpha_0 + \beta_1 GNP_t + \beta_2 GR_t + \beta_3 AID_t + \beta_4 PI_t + \mu_t \text{ ----- (1)}$$

Private Investment: Government investment is also included as an explanatory variable to capture crowding out or crowding in effects. Therefore, empirical form of our private investment equation is:

$$PI_t = \alpha_0 + \beta_1 GNP_t + \beta_2 RR_t + \beta_3 GI_t + \mu_t \text{ ----- (2)}$$

(GR) Government revenue, (AID) foreign aid and loan, (GI) Government investment, (PI) private investment, (GNP) gross national product. This study explores the public and private investment respectively. Based on co-integration tests the empirical results found long run relationship between public and private investment and its determinants. The findings are consistent with the theoretical hypothesis. In private investment model long run relationship exists between the variables. The most interesting conclusion from this study is that a negative relationship is found between private and a government investment that supports the existence of crowding out affect as was expected. Government investment adjusts back nearly 47% of disequilibrium of previous period's shock to the long run equilibrium in the current year. Government development expenditures must be improved, to minimize the cost of production of private sectors which increase the profitability of the investors. So development expenditures must be improved to support the private investment. Similarly government should make efforts to use aid for the development projects which helps to appreciate private investment. (*International Journal of Business and Social Science* 2012)

There is great importance of private manufacturing sector for the purpose of economic development within a state. When viewed as one aggregate industrial sector, South Carolina's manufacturing sector represents the largest industry cluster in the state's economy. This report is a brief overview of some of the many highlight of the industry and the importance of the sector to South Carolina's economy. South Carolina's manufacturing sector, like manufacturers across the country, has experienced significant declines in employment over the last decade. This trend continues today and the current economic crisis has only made this decline worse. Since 1998, there have been over 151,000 manufacturing jobs lost in South Carolina. However, the sector still represents a major employer in the state with over 15% of total employment in the sector. In addition, the sector pays wages well above those of the state average. The average manufacturing wage is 27% above the state average.

The importance of manufacturing varies across the state. In some counties, the sector represents more than 20% of the total employment and helps elevate the counties' per capita income levels well above the state average. In some counties, the sector is hardly represented and not surprisingly, these counties typically exhibit relatively low per capita incomes levels. In addition to the jobs that manufacturing creates and their corresponding high wages, the industry pays a

major portion of the local government property tax bill. Statewide, the manufacturing sector pays almost 13% of all property taxes. In some counties the manufacturing sector pays more than 50% of all property taxes. If these industries left these counties, the tax bill on the rest of the county residents could almost double. And finally, this report documents the tremendous economic impact that manufacturing has on the state's economy. The direct and indirect impacts from manufacturing total over \$141 billion per year. This includes the direct impacts of over \$95 billion and indirect impacts of another \$46 billion. It is estimated that before the current recession hit the state, the manufacturing sector supported over 585,000. (The Economic Impact of Manufacturing in South Carolina 2009).

Industrialization leads the country higher technology and then to higher productivity and using of resources efficiently. Advanced manufacturing is generally characterized by relatively high levels of skills and technology requirements and encompasses sectors such as automotive, electronics and others. These sectors are often driven by private manufacturing investors who own the proprietary knowledge involved and who subcontract original equipment manufacturing. (National Industrial Policy Framework, South Africa 2012)

Advanced manufacturing is generally characterized by relatively high levels of skills and technology requirements and encompasses sectors such as automotive, aerospace, electronics, and nuclear energy. These sectors are often driven by foreign direct investors who own the proprietary knowledge involved and who subcontract original equipment manufacturing. (National Industrial Policy Framework, South Africa 2012)

A considerable amount of work has been done on the determinants of investment in general and particularly private investment. In the context of countries in the developing world the relationship between private and public investment (in terms of 'crowding in' and 'crowding out') has been a major focus of analysis. Beyond the relationship between private and public investment, the concern for private investment has been in terms of its impact on growth.

Among the authors who have contributed to investment analysis in Africa are Oshikoya (1994), Mlambo and Oshikoya (1999), Devarajan *et al.* (1999), Mataya and Veeman (1996), Khan and Reinhart (1990), and Gunning and Mengistae (1999). Writing on the macroeconomic determinants of domestic private investment in Africa, Oshikoya (1994) found a positive relationship between public investment and private investment. The study spanned 1970 to 1988 and covered seven African countries, namely, Cameroon, Mauritius, Morocco, Tunisia, Kenya,

Malawi and Tanzania. Though public investment ratios had fallen in some of the countries, particularly in Mauritius and Morocco, a strong positive impact of public investment on private investment was observed. The results suggested that: “the productivity of these types of investment may be as important as their magnitude in influencing private investment” (Osikoya, 1994).

The World Bank (2006) drawing from empirical studies on the role of small firms in economic growth noted that, while SMEs together create more jobs than large firms, they also tend to experience higher layoff rates. Large firms on the other hand account for a greater share of net employment. The share of net job creation by large firms in the early 1990s was 76% in Zimbabwe, 74% in Kenya and 56% in Ghana. In terms of opportunities for low-skilled workers, the World Bank observed that a larger role was played by SMEs. The importance of SMEs in the creation of jobs was also emphasized by Albaladejo (2002). He observed that through the expansion of existing firms and the creation of new start-ups, SMEs in Africa account for most of the private sector jobs available.

Other advantages associated with SMEs include: a contribution towards a more equitable distribution of income; serving as stimulus for local and regional development as they tend to agglomerate to make an effective and rational use of resource endowments; and the promotion of a culture of entrepreneurship and other business-related skills by virtue of low entry barriers (Albaladejo, 2002). The issue of whether investment incentives influence the location of industries in the SME sector was examined by Ayeles (2006). Using a country case study on Ethiopia from 1992 to 1998, the author found that import and income tax exemptions were “weak policy instruments of indigenous SMEs and regional development in Ethiopia” because “most SMEs founders set up enterprises where they live, work, and in industries where they have obtained training or experience” (Ayeles, 2006, p. 12). What seemed to be the driving force for the start-up of enterprises in Ethiopia were better infrastructure, market and a broader enabling environment.

Private investment effects on macroeconomic variables are based on data not beyond the first half of the 1990s. This current study, which spans 1990 through 2004, goes beyond the existing ones by capturing recent investment trends and quantitative impact on some macro variables. Moreover, it appears, to the best of our knowledge, that the evidence on SMEs in Africa is relatively sparse and until recently there had been limited firm-level data on the SME sector in



Africa to allow for in-depth analysis on growth performance of SMEs. With the availability of World Bank's enterprise survey data for a number of private sector firms in Africa, and with the appropriate standardization of these datasets, this study provides recent insights on SMEs in Africa. (*Private Investment for Structural Transformation and Growth in Africa:2011*)

If the transformation of the manufacturing structure has a strong association with a country's economic development, the speed of exploiting the advantage in existing industries and laying the foundation for emerging industries through investment becomes key for fast economic growth. This shows the estimated development patterns of industries in value added per capita (food and beverages, wearing apparel, basic metals, and electrical machinery and apparatus) and the actual development paths of the Republic of Korea, Malaysia and Sri Lanka. The three countries have advantages in different industries that reflect their stage of development. Sri Lanka's is in relatively labor-intensive industries, such as food and beverages and wearing apparel, and thus rapid growth in these industries is foreseen. Malaysia has already lost its advantage in these industries, but can still expect continuing growth for some time in basic metals as well as long-term growth in electrical machinery and apparatus. The Republic of Korea has already lost, or is about to lose, its advantage in basic metals, but should keep its advantage in electrical machinery and apparatus for the foreseeable future. Despite similar development trajectories, the speeds at which these three countries have exploited their advantages – and thus increased their income and, possibly, shifted their advantage from one industry to another. All four industries developed much faster in the Republic of Korea than in Malaysia even during a similar stage of economic development: in wearing apparel around 20 times faster, and in basic metals and in electrical machinery and apparatus about 10 times faster. Sri Lanka's industries lagged behind Malaysia's, apart from wearing apparel. Productivity increases are crucial in accelerating development. The higher the growth of labor productivity, the faster a country moves along the development trajectories (Haraguchi 2012).

Productivity growth is especially important in explaining the speed of transformation of high-tech industries; productivity and other factors, such as wages, may be associated with the growth of low-tech industries. The Republic of Korea has experienced a fast manufacturing transformation in pursuit of raising living standards, and was much – perhaps two or three times

– faster than the advanced countries that preceded it. Stagnant countries, conversely, may stay with the same structure and income for decades.

Hence, private manufacturing investment play its own role not only on the production process but also for higher educational institutions has its own impact in order to certified skilled and educated human resource. And this helps the country to develop in all rounded economic activities. Because manufacturing is the way for industrialization and this needs high level of skilled human resource. (*Private Investment for Structural Transformation and Growth in Africa 2011*)

## **2.2 Empirical Review on the Impact of Private Manufacturing Investment**

### **2. 2.1. Role of Private manufacturing investment on GDP**

Private manufacturing investment has a great role for the development of the whole economy. And this is in terms of different reasons. It can be played its own role on the employment, income generation and the GDP as a whole. Hence, developing the manufacturing sector is essential for economic development. The manufacturing sector in Ethiopia operates at very low technological level well behind world technological standards even in the activities in which it specializes. Imports of licensed technology are negligible with no sign of increase. This may not be unusual in less industrialize countries. However, increasing the export of manufactures cannot be achieved without the rapid introduction of modern technology at least for those industries of comparative advantage aiming to produce for export.

The various policy reform measures taken during the 1990s brought about increases in the number of manufacturing enterprises and gross value of production. However, the manufacturing sector is still at its infancy and has a number of problems hindering meaningful growth. During the period 1991/92 to 1998/99 the contributions of the sector to GDP and export earnings were on the average about 6.2% and 6.5% respectively. In 1998/99, the sector's foreign exchange earning covered only about 18% of its own requirements. The average annual imported input utilization for medium and large manufacturing enterprises during the above period was about 46% of their total input requirement. Most of the enterprises are of the import substitution type and use old technology, low level of skill and management. The liberalization of the market in the early 1990's resulted in unfavorable competitive conditions as a result of imports of manufactured goods. Average capacity utilization fell to 60%. Considering the importance of the manufacturing sector to the success of ADLI and the strategy for poverty reduction, the

government has short-to-medium term programs to implement a comprehensive capacity building program to improve competitiveness by enhancing private sector institutions, human resource inputs, research and development and the introduction of different schemes for capacity building.

Manufacturing raises not only the production but also the quality and time the production and then increase competition. Establish a Research and Development Institute starting with the processing industry to upgrade the efficiency and productivity of the food-processing sector;

The Government would also look into other areas, which are relevant for the growth of the manufacturing sector such as the introduction of incentive mechanisms for resource-based industries engaged in the export sector. This can include the modernization of the technological base through transfer arrangements, provision of credit, the establishment of industrial estates and other support schemes. (MoFED, 2012 )

The manufacturing sector also uses for transformation the system of production in terms of technological transformation. Manufacturing provides greater opportunities to accumulate capital, exploit economies of scale, acquire new technologies and more fundamentally foster embodied and disembodied technological change. Large economies show exactly the opposite trend: manufacturing accounts for a much higher share and value-added gains towards high-productivity activities with larger opportunities for innovation and value-added expansion would thus become the core of structural change and more broadly economic development. Once structural change is understood from this latter perspective, manufacturing becomes one of the main engines of economic growth, and thus any shift of resources from low-productive activities (such as rural agriculture or urban informal services) towards Manufacturing entails an important structural change bonus, in what some authors have labeled “growth enhancing structural change” (McMillan and Roderick 2011). The literature presents several arguments to support the idea that manufacturing is the main engine of economic growth. Perhaps the most influential came from Nicholas Kaldor in the 1960s. In his view the capacity to generate dynamic, increasing returns and thus greater productivity through expanded production was at the core of manufacturing.

Industrialization leads the country higher technology and then to higher productivity and using of resources efficiently. Advanced manufacturing is generally characterized by relatively high levels of skills and technology requirements and encompasses sectors such as automotive, electronics and others. These sectors are often driven by private manufacturing investors who own the proprietary knowledge involved and who subcontract original equipment manufacturing. (National Industrial Policy Frame Work, South Africa 2012)

Carefully chosen and implemented interventions can promote industrial growth and employment, as confirmed by evidence from the results of impact evaluations for high-income countries published in 2010 and 2012. For instance, subsidies to manufacturing firms can increase employment at comparably very low cost per job (Criscuolo et al. 2012). Well-allocated firm level subsidies can also boost total factor productivity (Aghion et al. 2012), and tariffs that account for the varying skill levels among industries have the potential to boost economic growth (Nunn and Trefler 2010). Manufacturing in industrializing countries is geographically highly concentrated, with the five leading economies accounting for 70.9 percent of total production in 2012, up from 52.7 percent in 1992. The high and sustained MVA growth in China over this period 11.4 percent on average is behind its emergence as the factory of the world: in 2012, 50 percent of industrializing- country manufactured goods were produced in China. Of all other large industrializing-economy manufacturers, only India 7.4 percent average annual MVA growth kept pace with China's expansion. It gained MVA share to become the second leading manufacturer among industrializing economies, superseding Mexico and Brazil, which saw their MVA(Manufacturing value) added shares fall by more than half from 11.7 percent and 10.5 percent in 1992 to 5.7 percent and 4.9 percent in 2012. Turkey's steady MVA growth (4.5 percent on average a year over 1992–2012) enabled it to preserve its position as the fifth largest manufacturer among industrializing economies. (*Industrial Development Report 2013*)

Hence, private manufacturing investment play its own role not only on the production process but also for higher educational institutions has its own impact in order to certified skilled and educated human resource. And this helps the country to develop in allrounded economic activities. Because manufacturing is the way for industrialization and this needs high level of skilled human resource.

#### **2.2.2. Impact of Private Manufacturing investment on Local Economy**

Communities and states are investing substantial and increasing levels of resources in economic development initiatives, motivated in large measure by the benefits which they expect to result from these efforts (Burnier 1992; Bartik 1991). Among the benefits commonly anticipated to result from new or expanded manufacturing facilities (or from growth in other basic economic sectors) are both *direct impacts* (the jobs in the new facility, its expenditures to employees and suppliers, and its tax payments) and *secondary impacts* (jobs created in other sectors of the local economy, increased sales of local trade and service firms, etc.). However, the benefits to be expected from a new development activity are not always easy to assess. In some cases, many of the new jobs promised by developers have not materialized, or most of these jobs have been filled by outsiders. The firms were asked to provide a variety of information, including current employment, employment five years prior to the survey, gross sales, the distribution of expenditures by type (i.e., for raw materials, processed materials, direct labor, subcontracting, and other), and the percentage of each type of expenditure which was made to entities within the state. In order to estimate the secondary economic effects of the various types of firms, the estimates of each firm's in-state expenditures were applied to the North Dakota Input-Output Model (Hertsgaard et al. 1984). Input-output have been used extensively in estimating secondary economic impacts of a variety of projects and programs (Otto and Johnson 1993). Based on each firm's in-state expenditures, the input-output model provided estimates of the total economic impact (gross receipts or gross business volume of all sectors) resulting from its annual operations, as well as the secondary (indirect) employment attributable to its activities.

There is great importance of private manufacturing sector for the purpose of economic development within a state. When viewed as one aggregate industrial sector, South Carolina's manufacturing sector represents the largest industry cluster in the state's economy. This report is a brief overview of some of the many highlights of the industry and the importance of the sector to South Carolina's economy. South Carolina's manufacturing sector, like manufacturers across the country, has experienced significant declines in employment over the last decade. This trend continues today and the current economic crisis has only made this decline worse. Since 1998, there have been over 151,000 manufacturing jobs lost in South Carolina. However, the sector still represents a major employer in the state with over 15% of total employment in the sector. In

addition, the sector pays wages well above those of the state average. The average manufacturing wage is 27% above the state average.

The importance of manufacturing varies across the state. In some counties, the sector represents more than 20% of the total employment and helps elevate the counties' per capita income levels well above the state average. In some counties, the sector is hardly represented and not surprisingly, these counties typically exhibit relatively low per capita incomes levels. In addition to the jobs that manufacturing creates and their corresponding high wages, the industry pays a major portion of the local government property tax bill. Statewide, the manufacturing sector pays almost 13% of all property taxes. In some counties the manufacturing sector pays more than 50% of all property taxes. If these industries left these counties, the tax bill on the rest of the county residents could almost double. And finally, this report documents the tremendous economic impact that manufacturing has on the state's economy. The direct and indirect impacts from manufacturing total over \$141 billion per year. This includes the direct impacts of over \$95 billion and indirect impacts of another \$46 billion. It is estimated that before the current recession hit the state, the manufacturing sector supported over 585,000. (The Economic Impact of Manufacturing in South Carolina 2009).

#### **2.2.2.1. Impact of Private Manufacturing on Employment opportunities**

When viewed as one aggregate industrial sector, South Carolina's manufacturing sector represents the largest industry cluster in the state's economy. This report is a brief overview of some of the many highlights of the industry and the importance of the sector to South Carolina's economy. South Carolina's manufacturing sector, like manufacturers across the country, has experienced significant declines in employment over the last decade. This trend continues today and the current economic crisis has only made this decline worse. Since 1998, there have been over 151,000 manufacturing jobs lost in South Carolina. However, the sector still represents a major employer in the state with over 15% of total employment in the sector. In addition, the sector pays wages well above those of the state average.

The average manufacturing wage is 27% above the state average. The importance of manufacturing varies across the state. In some counties, the sector represents more than 20% of the total employment and helps elevate the counties' per capita income levels well above the state average. In some counties, the sector is hardly represented and not surprisingly, these counties typically exhibit relatively low per capita incomes levels. In addition to the jobs that manufacturing creates and their corresponding high wages, the industry pays a major portion of the local government property tax bill. Statewide, the manufacturing sector pays almost 13% of all property taxes. In some counties the manufacturing sector pays more than 50% of all property taxes. If these industries left these counties, the tax bill on the rest of the county residents could almost double. And finally, this report documents the tremendous economic impact that manufacturing has on the state's economy. The direct and indirect impacts from manufacturing total over \$141 billion per year.(The Economic Impact of Manufacturing in South Carolina 2009).

Manufacturing is still fundamental to the labor market. Manufacturing jobs tend to be more productive than others, and so tend to be better paid and to offer better labor conditions, such as security and employment benefits. This particular feature of manufacturing lies at the heart of the growth-enhancing structural change argument. Further, manufacturing's strong productive linkages with other sectors lead to a much greater impact on employment creation due to indirect effects. A job in manufacturing is typically associated with more jobs in other sectors. This subsection aims to quantify the number of jobs created in manufacturing around the world over the last 40 years, but faces two methodological problems. First, sector-disaggregated employment data are limited, especially in developing countries and over a long period. Second, even when there are data, comparability among countries may be affected by different definitions for employment status, type of occupation, coverage and so on. Still, two main sources of information can be used: industry surveys and general household surveys. Most countries carry out industry surveys. They typically provide reliable data on the number of manufacturing employees working in formal enterprises and over a long period.

But depending on country they may well cover firms employing at least 5 or 10 workers, and exclude self-employed workers and unregistered employees, thus heavily under estimate.

Manufacturing jobs possess some characteristics that make them more desirable than other types of employment, including higher productivity from a macroeconomic viewpoint and higher wages, better working conditions, more opportunities for skill upgrading and many jobs for women from a social view point. Higher productivity jobs are normally associated with higher wages. Historical evidence for the advanced economies and the successful newly industrialized countries shows that wage gains associated with industrializing structural change have greatly helped pull large sections of the population out of poverty (Weiss 2013).

Manufacturing is also important for absorbing workers with modest skills and providing them with stable jobs and good benefits – as the sector where “the world’s middle classes take shape and grow” (Rodrik 2011). Some employment-intensive industries seem particularly well suited for this purpose, such as garment industries in many low-income countries (Fukunishi2012). These industries provide wages that are generally higher, rural opportunities with low entry barriers for less educated workers (especially females) and a relatively easy promotion to better positions. Many individuals see manufacturing as a major source of good jobs. Besides offering higher wages, it typically provides better employee benefits and security than jobs in other sectors and tends to develop higher skills than equivalent jobs in the rest of the economy (Lavopa and Szirmai 2012).

#### **2.2.2.2 Impact of Private Manufacturing on Market Stability and Poverty Reduction**

Sustained economic growth and employment generation is necessary for poverty reduction and require enhanced private sector investment resulting in economic growth, reduction in poverty and improved quality of life for the majority of the population. Private initiative, unleashed in competitive markets is key to promoting growth and poverty reduction in parallel with public sector efforts. Tax revenues generated by private markets and employments are critical to support public expenditure programs. Private Sector Development (PSD) is about enabling the



enhanced utilization of labor and other resources of the country through the growth of private businesses by providing predictable and enabling environment both in domestic and overseas markets. PSD is about the maintaining a good balance between the complementary functions of the state and the private sector about judicious refocusing of the role of the state not about indiscriminate privatization but about sound government policies that provide room for private initiative and that set a regulatory framework which channels private initiative in ways that benefit society as a whole.

One of the major contributing factors to the economic crises of Ethiopia during the 1980s was the restrictive policy imposed on the activities of the private sector. At the beginning of the transition period i.e. 1991/92, it was obviously clear that without changes in the policy regime of the 1980s efforts to realize socio-economic recovery and sustained development would be futile. As a result, the New Economic Policy took the creation of an enabling environment for both domestic and foreign private investment as one of its objectives. The series of reforms since 1992/93 have shifted the policy regime of the 1980s and did go a long way to create enabling environment for private sector investment. Thus, the Poverty Reduction Strategy (PRS) now proposes to build on these reforms and broaden them into a comprehensive strategy for private sector development that is meant to foster a qualitative jump in the role of private activity in generating growth and supporting poverty reduction.

Competitiveness is the key to success in sustained economic development. Domestic private sector needs to be more competitive to capture the opportunities in the global market. The most important factors that should come into the basis of competitiveness are: a) Investment Climate, b) Investment Finance, c) Infrastructure, d) Input/output Markets, and e) Institutions that run and support the system. Investment climate focuses on peace and stability and macro-economic environment. Macro-economic stability reflected by exchange rate, money supply (interest rate and credit) and fiscal policy (taxes and expenditure), is enhanced and sustained by sound policy and regulatory framework covering the investment regime and market conditions that can foster competitiveness both domestic and at international level and an equitable and objective tax regime. Investment finance plays an important role in PSD. The availability of financial management transparency, efficiency and the equity of access are the key factors. Efficient

management of investment finance concerns both the financial institutions and private sector operators who use resources for business development. An equitable disbursement system based on transparency and objective evaluation is an essential element for all players in the financial sector. Investment finance is comprised of both equity finance and debt finance. Variety and accessibility of financial services with efficient pricing are key factors. In the absence of security markets, well-functioning financial intermediaries are critical. For disbursement, information and skill for credit and collateral evaluation and cash flow analysis is critical.

In 2011 world manufactured exports peaked at \$13,469 billion, growing faster than MVA and GDP over 2007–2011 (Table S3). They recovered fully from the contraction that followed the crisis, due mainly to the expansion in exports from large industrializing countries such as China and India. Industrialized countries' manufactured exports grew by just 3.7 percent annually over 2007–2011, reaching \$9,483 billion in 2011, as they struggled to recover from the dip in economic activity brought about by the crisis. In industrializing countries, manufactured exports grew by 10.5 percent annually over the same period, to a peak of \$3,985 billion in 2011.

The higher dynamism of industrializing economies is also reflected in the increase in their share in world manufactured exports, from 13.9 percent in 1997 to 29.6 percent in 2011. It was the emerging economies, including China and 31 other fast-growing, high and higher MVA per capita economies, which accounted for most of this increase, their world share more than doubling from 12.3 percent in 1997 to 27.1 percent in 2011.

Together, the combined manufactured exports of the largest country in each industrializing region – China, India, Mexico, Poland, South Africa and Turkey – accounted for 67.5 percent of the industrializing countries' total in 2011, up from 59.9 percent in 2002 and 55.1 percent in 1997, confirming the higher dynamism of the larger countries and a worrying widening gap with the smaller economies. (Industrial Development Report 2013).

The role of the private sector for sustained, pro-poor economic development has been clearly set out in the Government's legal, institutional development policy, strategy and programs. Because of the fact that the private sector is at its infancy stage struggling to get out of real and perceived

handicaps, strong institutions of dialogue and consultation will be productive. Moreover, public sector institutions giving support and services to the private sector are still in their learning and development stage. This makes the establishment of public-private consultation forums an essential component of the government's PSD program. The efforts already underway will be nurtured for more advanced co-operation and partnership between the private sector and the Government.(MOFED 2012).

Following this line it has been argued that manufacturing is the main driver of productivity growth. Compared with other sectors, manufacturing provides greater opportunities to accumulate capital, exploit economies of scale, acquire new technologies and more fundamentally – foster embodied and disembodied technological change. So, not only the level but also the dynamism of productivity is higher in manufacturing than in other sectors and thus the shift of resources into manufacturing entails static and dynamic structural change bonuses (Szirmai, Naude and Alcorta 2013).

The dynamism of manufacturing also has key effects on the rest of the economy. Manufacturing has a pulling effect on other sectors arising from productive linkages. Its development stimulates, for example, the demand for more and better primary goods (in agriculture, forestry, fishing and mining) and services (such as banking, insurance, communications, trade and transport).are crucial for competitiveness. For instance, manufacturing is the main vehicle for technology development and innovation, representing today's hub for technical progress.(Industrial Development Report 2013)

### **2.2.3. Impact of Manufacturing on productivity**

We now turn to look in more detail at a particular feature at the core of the special role of manufacturing as the engine of growth. Its larger opportunities for productivity gains compared with other sectors of the economy. We analyze how the relative productivity of each major sector

(here taken to be agriculture, manufacturing, non-manufacturing industry and services) evolves as countries development. Relative productivity is here simply defined as the ratio between the output labor ratio of each sector and that of the whole economy. This coefficient is obtained by dividing the share of manufacturing in GDP by the share of manufacturing in total employment. To get figures of this coefficient by income, we estimate the average (weighted) shares of each sector in GDP and total employment for all countries and years that fall in that income range. In the light of the evidence showing structural breaks over the last 50 years, we restrict the analysis to the last two decades.(Industrial Development Report, 2013).

#### **2.2.4.Opportunities for Private Manufacturing Sector**

Private manufacturing sector needs its own environment and it under consider as good opportunities for the private manufacturing investment. It depends on the sweatable environment such as; peace and stability, macroeconomic stability, Institutional and Legal environment, Taxation and others.

##### **Peace and Stability**

Peace and stability is a key factor for investment attraction and sustained economic development. Investors need free and fair conditions to be able to pursue productive activity. They also need to have conditions where contracts and property rights are respected and corruption is kept at its lowest possible level. The Federal Democratic Republic of Ethiopia (FDRE) constitutes a federal system of government where both economic and political responsibilities have been considerably decentralized giving more autonomy to regional and *Woreda*administrations with the objective of deepening the democratization process and bringing about improved governance. In order to deepen the decentralization process, implementing powers and responsibilities for resources allocation are being designed for *Woreda*and *Kebele*level administrations. The civil service reform program, which includes the judicial system, is being implemented. Overall, the democratization process has helped to create peace and stability in Ethiopia.

##### **Macroeconomic Stability**

Low inflation, low interest rates and a realistic exchange rate, continuing trade reforms and relatively decreasing role for the state through privatization and deregulation helped to redress the imbalances of the 1980s and created conducive environment for sustained macroeconomic stability. This is a strong feature of the Ethiopian economy since the beginning of the economic reform in 1992/93. Trade, exchange rate and other structural reforms resulted in about 6.3% average annual growth in real exports. However, despite this trend, Ethiopia's participation in the global economy is still minimal. Per capita exports were less than US\$ 15.00 in 1999 compared to the Sub-Saharan Africa average of US\$ 163.00. The reforms of the 1990's have not led to a diversification of exports away from agriculture nor have they spurred the export of agricultural produces and manufactured goods significantly.

### **Institutional and Legal Environment**

An Investment code was issued in 1992, which created space for private investment with a number of incentives. Investment Offices were also established at federal and regional levels to coordinate and facilitate private sector investment. A one-stop arrangement was also put in place to reduce the cost of doing business and expedite private investment implementation. Furthermore, the investment code was revised several times to improve the investment environment. The last revision was made in May 2002. Improvements introduced by the new Code that would help enhance the investment climate are the reduction of the minimum threshold for FDI to US\$ 100,000 for wholly foreign-owned ventures, to US\$ 60,000 for joint ventures, to US\$ 25,000 for joint investment in the areas of engineering, architectural, accounting and audit services, project studies or consultancy, and no minimum investment requirement for those exporting at least 75% of output.

### **Access to Land**

Expedient access to land is an important input to enhance investment. However, it is recognized that impediments exist for the smooth progress of investors' desire for the implementation of projects. Such constraints include high land lease rate, bureaucratic hurdles to secure land and absence of infrastructure services. In consideration of these constraints, the Government is taking steps to considerably reduce the minimum lease rate and increase the supply of land to minimize escalation of prices during auction, streamline the bureaucracy involved in the identification and

delivery of land, and prepare/develop infrastructure on plots to be offered for lease. Moreover, the Government plans to improve governance in all major towns and put in place a transparent and investor friendly system to minimize the bureaucratic impediments in the delivery of land.

The government and the private sector will continue to be engaged in consultations to reach an understanding on how to further improve the land lease system. Issues for future consultation will relate to lease policy collateralization of land held under lease and assisting investors in large-scale commercial farms to have access to agricultural land with basic infrastructure.

### **Taxation**

There had been revisions in the tax regime many times in the past reducing income tax from 89% to 40%. But overall, the measures taken were piece-meal and essentially left the system of tax assessment and collection full of loopholes for evasion and non-payment of taxes. A comprehensive tax reform is currently underway with the objective of removing past weaknesses. The tax reform program has measures to broaden the base and build the capacity of tax administrators. It is envisaged that the reform process would reduce the rates but enlarge the base improving tax collection. The tax rate is set to fall from 40% to 35% for individuals and single proprietor businesses, from 35% to 30% for companies. Furthermore, value-added Tax (VAT) will be introduced from January 2003 replacing sales tax. All exports of goods and basic services will be exempted from VAT. The present rate of capital gains tax will also be reduced to enable a free and transparent fixed asset market. The administrative measures that are to be introduced include the introduction of Tax Identification Number (TIN) beginning fiscal year 2002/2003. This will enable the Government and other operators (banks and other financial institutions) to work from an objective database. Audited books of accounts on which tax has been paid and property and income records will be easier to produce. The implementation of the TIN and the tax reform program will start at Federal level and standard application in all the regions is under discussion.

The Government and the private sector representatives will try and alleviate capacity problems related to the effective implementation of the tax reform program. Manuals prepared to train taxpayers and tax collectors will be in place initially in Addis Ababa and subsequently in the

regions. One of the issues for further consultation with the private sector will be capacity building for the majority of taxpayers to maintain proper books of accounts. The Government will assist in the provision of the necessary resources through private sector and donor assistance to educate and enable private sector operators in general and Small and Medium Enterprises (SMEs) in particular to build the required capacity to maintain proper accounting records. (MoFE2002 )

#### **2.2.5. Manufacturing policy of Ethiopia**

##### **Evolution: Industrial policy & development**

In Ethiopia, modern manufacturing factories emerged in 1920s (As of 1927 about 25 were set up mostly by foreigners) the sector started to get momentum in the 1950s (after brief disruption in the WWII period). The 1950s also marked by start of a comprehensive plan to promote the country's industrial & economic development. Ethiopia has seen three regimes over the last eight decades Imperial regime (up to 1974) Dergue regime (1974-91) EPRDF-led regime (since 1991) Successive regimes adopted different policies for the development of industry .

##### **The imperial regime (up to 1974)**

Between 1958-73 three successive development plans were implemented. The implementation of the initiatives attracted foreign investors and boost the manufacturing sector (World Bank, 1985). But by the end of the Imperial regime...

- The overall industrial base was weak
- The manufacturing sector characterized by dual structure
- The modern sector constituted few hundreds of factories employing no more than 60,000 people And dominated by import substituting light industries and foreign ownership

##### **The EPRDF-led government (since 1991)**

The first decade (1991-99) marked by various reforms reversing the command economy

- Implemented three phases of IMF/WB sponsored reform programs.
- In 1998 government adopted Export Promotion Strategy

A full-fledged Industrial Development Strategy (IDS) was formulated in 2002/03

Concretized into action by various sub-sector strategies and by the successive development plans such as;

- Sustainable Development and Poverty Reduction Program (SDPRP) 2002/03-2004/05 and
- The Plan of Action for Sustainable Development and Eradication of Poverty (PASDEP) 2005/06-2009/10.
- The Growth and Transformation Plan (GTP) 2010/11-15/16

Industrial policy should seek to promote structural change from agriculture to labor-intensive or resource-based manufacturing at an early stage of industrialization; through upgrading and diversification in manufacturing at a later stage; and through technological innovation at an advanced stage. Industrial policy is a widely used term but difficult to define. According to Warwick suggests any type of intervention or government policy that attempts to improve the business environment or to alter the structure of economic activity towards sectors, technologies or tasks that are expected to offer better prospects for economic growth or societal welfare than would occur in the absence of such intervention, i.e. in the market equilibrium (Warwick 2013). The main objective of industrial policy is to “anticipate structural change, facilitating it by removing obstacles and correcting for market failures” (Syrquin, 2007).

Hausmann and Rodrik identify three main types of market failure that are particularly relevant for new activities to emerge (thus changing the industrial structure), where identification and correction provide a rationale for industrial policy: coordination externalities, as specific new industries or activities require simultaneous, large investments to become profitable; information externalities, as discovery of new activities requires an investment whose returns cannot be fully appropriated by the investor; and labor training externalities, as firms regard labor mobility as a disincentive to invest in on-the-job training, thus reducing technological spillovers. At the initial stage of industrialization agriculture is still the largest sector for employment, though it tends to be the least productive (Herrendorf, Rogerson and Valentinyi 2013). This lower productivity than in the more advanced sectors leaves a great potential untapped, suggesting that manufacturing can still play a major role as an engine of growth through the reallocation of resources.



To promote structural change by moving from agriculture to manufacturing, low-income countries need to align agricultural and industrial policies. They need agricultural development strategies with a strong emphasis on increasing agricultural productivity, which will translate into cheaper agricultural products and release a typically unskilled and cheap labour force. And to absorb the released labor and to benefit from cheaper agricultural inputs, industrial policy should seek to create or support labor-intensive and resource-based manufacturing with low entry barriers, which are likely to favour industrial SMEs important for broadening the industrial base. Support for SME development should thus be an integral part of industrial policy at this early stage.

According to Peres and Primi (2009), the state can promote industrial development in four main ways: as a regulator establishing tariffs, fiscal incentives or subsidies; as a financier influencing the credit market and allocating public and private financial resources to industrial projects; as a producer participating directly in economic activity through, for example, state-owned enterprises (SOEs); and as a consumer guaranteeing a market for strategic industries through public procurement programs. This subsection discusses the main policy instruments for these roles, and notes that successful industrial Policy is not only about picking winners but also about letting losers go (Gunther and Alcorta 2011). Beneficiaries should be aware that government support is time limited (through “sunset clauses”) and based on performance incentives. (Industrial Development Report 2013)

Ethiopia’s government recognizes the need to support private sector development as the engine of economic growth and productivity enhancement and it is clearly committed to advancing industrialization and other high-value activities. The government describes itself as a revolutionary democracy and developmental government. It can in fact be characterized as “developmental” in the sense that its attitude and activities are strongly driven by the desire to lay the foundations for long-term economic development. Probably few developing countries show such a determined and credible commitment to industrial development, technical and vocational education and training (TVET) as well as science and development. Substantial investments have been made in new universities, expansion and reform of the TVET system,

specialized institutions for sector-specific technology development, and a new Ministry for Science and Technology; Pro-poor spending.

There is a strong policy focus on improving education and health as well as rural infrastructure, microfinance, and to maintain land policies that protect the livelihoods of the poor; Papers written by the Prime Minister, EPRDF documents and the Industrial Development Strategy all refer to the lessons that Taiwan and Korea (and in some cases Japan) hold for Ethiopia's development. These include: early focus on productivity growth in agriculture in order to accumulate capital, increase supply for agro-industries, and generate demand for manufactured goods; restriction on ownership of land; a nationalized banking system that has enabled governments to channel credit from rent-seeking to value-creating activities; incentives for export-orientation; 'carrot and stick' policies for enterprises, e.g. setting productivity and export targets; a focus on export-led industrialization; and control of industries as a 'cash cow' to generate the financial means the ruling party needs to retain political hegemony.

These elements in fact are a powerful factor in shaping Ethiopia's industrial policy. Agricultural demand-led industrialization is regarded as the starting point for industrial development and the financial sector is set to remain under government control the Board of Directors of the Commercial Bank is appointed by the government, and the bank lends on the basis of "strategic" political criteria; export orientation is strongly encouraged; specific performance targets for major firms are set; and government control of economic sectors – e.g. telecommunications – is maintained as a source of revenue for the government. In 2003/04 the government received 13.5% of its total revenue from SOEs and government-owned property.

The Industrial Development Plan mentions a few general principles – e.g. to recognize the role of the private sector as an engine of growth; the importance of state leadership to challenge and support developmental firms; and the need to build on both foreign and domestic investors. Furthermore, it specifies priority areas for *selective* interventions that favour certain sectors over others. What follows presents and critically analyses the main criteria for selective support. When it comes to modern industrial policy, governments formulate industrial policies in a participatory process that enables them to elicit information from private stakeholders in order to

address specific market failures. This requires both close interaction with these stakeholders ('embeddedness') and independence in decision-making ('autonomy'), in order to avoid serving the interests of particular lobbyists (Evans 1995). Moreover, modern industrial policy is designed as an open-ended process of experimentation or "self-discovery" (HausmannRodrik 2006).

Temporary incentives may be provided if they are necessary to trigger private sector responses that may generate positive externalities; but they should be phased out when there is evidence that the private sector does not respond as expected, or when market development takes off and generates sufficient response. In order to take these decisions, close monitoring and evaluation of policy performance is needed, and stakeholders should be invited to provide their feedback. Hence good industrial policies build on an evidence-based, participatory and transparent institutional learning process. Moreover, policymakers should make use of private service providers whenever possible, providing incentives if necessary, and encourage competition among service providers, rather than implementing each and every service through government channels.(Industrial Policy in Ethiopia Tilmann Altenburg Bonn 2010).

## **CHAPTER THREE**

### **3.METHODOLOGY AND DATA SOURCE**

#### **3.1 Description of The Study Area**

Mekelle City is one of the fastest growing cities of Ethiopia serving as the capital city of Tigray Regional State. The total area of the city is 19,200km<sup>2</sup> and it located in the north part of Ethiopia 783km far from Addis Abeba. The city is the center of many federal, regional and international organizations. According to the regional Bureau of Plan and Finance population projection estimate based on the population census Of 2007 is the total population of 272,519 out of this 132,474 ( 48.6%) is male and 140,045 (51.4 %) is female with average population growth of the city is 4.7%. This rapid population growth is attributable to a combination of factors including continued migrations from the rural areas and naturalgrowth (BoFED,2012).

Geographically, it is located between altitudes of 2000-2200m above sea level and has a weinadega agro-ecology zone (medium high land climatic condition). The city is found in 39°28' east and 13°28' north with rainy and dry seasons and its average annual rainfall is 618.3 mm/year and 19<sup>0</sup>c average mean temperature (WRDF, 2008).

#### **3.2. Research Methods**

There are 137 private investors of manufacturing on operation which are in ten subsectors and out of them, a random sample of 55 (40 %) manufacturers and 150 (40 %) out of 375 workers would be selected and surveyed. Both private investors of manufacturing and workers of private firms would be asked to their benefits from the private investment of manufacturing in terms of employment, income generation and market stability through data collection instruments such as: questionnaireand check list.

Finally, for the study, the researcher would be selected both qualitative and quantitative research design. The research would be focused to assess the impact of private investment of manufacturing on the local economy through surveying.

### **3.3 Methods of Data Collection**

#### **3.3.1 Source of Data**

This paper was entirely based on primary & secondary data and the data sources were the Mekelle zone investment office and the investors who are found in Mekelle zone and the workers of private firms. The primary data was collected from private manufacturing investors and workers of private firms while the secondary data was collected from Mekelle zone Investment office.

#### **3.3.2 Data Collection Instrumentation**

The researcher would be collect data using different instruments such as: questionnaire and opened end questions. Both primary and secondary data would be collected and surveyed. According to this, the data would be collected from Zonal Investment Bureau, private manufacturers and workers of different private firms who are found in the town.

#### **3.3.3 Questionnaire Design**

The study designed the survey questionnaire in order to determine factors that affect the impact of private manufacturing investment on the local economy. The questionnaire divided in to three parts. The first part “A” was for the private manufacturers and the second part “B” was for the workers of private firms. And the third part “C” was an opened end questions which was to collect the secondary data from Mekelle zone Investment office. All the three parts were focused on the impact of manufacturing investment on the local economy in terms of opportunities and incentives for private manufacturing investment, creating employment opportunities, market stability and income generation. Accordingly, the data was processed and prepared for the analysis in appropriate ways and finally stata software version 12 was employed to construct multivariate regression model and logistic regression models.

#### **3.3.4 Sampling Design and Techniques**

There were two main sampling techniques used in this study and the researcher would be used random sampling. And the sample for the study would be drawn randomly from 137 private manufacturers. There are 10 sub-sectors, there are 3 furniture, 2 leather, 2 paper & paper products, 10 plastic, 48 electromechanical, 4 chemical, 7 textile, 7 printing service, 20 non-metallic minerals and 33 food complex. And all are under the manufacturing sector; therefore, the study will be focused on the impact of investment of manufacturing on the local economy.

Random samples required the creation of a complete list of all the units in a population from which units of that population were selected randomly to the study. First the total private manufacturers listed out and the researcher would be selected randomly based on their sub economic sectors. According to this, for the random sampling the researcher used the lottery method. Under this method the various units of the universe were numbered on small and identical slips of paper which folded and mixed together on the plate thoroughly. A blindfold selection was then made of the number slips required constituting the desired size of sample. In addition to the private manufacturers the workers of private firms also selected randomly from the firms' attendance by called the first and last numbers and 40 firms added the tenth number. According to this 55 /40%/sample out of 137 private manufacturers and 150/40%/sample out of 375 workers of private firms, they would be administered using structured questionnaire.

**. Accordingly,**

- ❖ 01 /33.3%/ from Furniture
- ❖ 01 /50%/ from Leather
- ❖ 01 /50%/ from Paper & Paper products
- ❖ 04 /40%/ from Plastic
- ❖ 14 /29.2 %/ from Electromechanical
- ❖ 02 / 50%/ from Chemical
- ❖ 04 /57%/ from Textile
- ❖ 02 /43%/ from Printing Service
- ❖ 13 /65%/ from Non-metallic Minerals
- ❖ 13 /39.4 %/ from Food Complex

Totally, 55 / 40%/ manufacturers will be included in the study.

### **3.4 Method of Data Analysis**

In achieving the objective of the thesis, the study employed both descriptive and econometric techniques. So the data obtained from the sample of private manufacturing investors, workers of private firms and from Mekelle zone investment office was analyzed on these techniques.

#### **3.4.1 Descriptive Analysis**

The descriptive analysis was performed to explain the socio-economic characteristics of the sample private manufacturing investors and workers of different firms by using percentages and mean.

#### **3.4.2 Econometric Analysis**

The researcher would be used panel data and the econometric method of analysis would be the multivariate regression and logistic model of analysis and using a little bit time series and in large cross-sectional data. Panel obtains estimates of multivariate regression models for panel data (several observations or time periods for each firm) Panel could also compute means by group and perform t-test. In addition to the multivariate regression model of analysis the researcher also used the logistic regression model of analysis. Here the maximum likelihood kind of estimation also used as the tool of estimation.

##### **3.4.2.1 Model Specification**

As mentioned previously, multivariate regression model and logistic regression model were used to determine the impact of private manufacturing investment on the local economy. By estimating the two models, assess the effect of private manufacturing investment on the local economy. Both the multivariate regression model and binary choose model in terms of logistic regression could be specified as follows:

- $Y_{it} = \alpha_{it} + \beta_1 X_{it} + U_{it}$
- $i = 1, \dots, N$
- $t = 1, \dots, T$
- $E(U_{it} | X_{it}, \alpha_{it}) = 0$
- The key issue in panel data the explanatory variables are uncorrelated with the error term.

### 3.4.2.1.1. Multivariate Regression Model Analysis

To define the models estimated, assume the researcher had observations on  $i=1,2,3,\dots,N$  firms for each of  $t=1,2,3,\dots,T$  years. The dependent variable is denoted by  $y_{it}$  and the independent variables by  $x_{it}$ . The basic pooled or total regression model is:

$$Y_{it} = \beta_0 + \beta_1 X_{it} + u_{it} \text{-----3.6.1}$$

Where  $\beta$  is the overall intercept

This model assumed a single set of slope coefficients for all the Observations. The fixed effect or within model assumes that there are common slopes, but that each cross-section unit has its own intercept, which may or may not be correlated with the  $X$ s.

$$Y_{it} = \alpha_i + \beta_1 X_{it} + u_{it} \text{-----3.6.2}$$

Therefore, the researcher would be decided first to make when dealing with panel data is how to organize it. Then the researcher would be analyzed using multivariate regression model of analysis.

### 3.4.2.1.2. Binary Choose Model

Logit model is non-parametric technique determining the estimates of independent variables on a dependent variable. Because it is a non-parametric technique and here there are two popular ways of doing this:

- A. Cumulative normal function it creates the probit model
- B. Logistic function it creates the logit model

And these have the novel features of these models is the role of error term is hidden. In CLM there is,

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e \quad \text{but in binary model is } (y=1) = F(xb)$$



And the researcher used the maximum likelihood estimator, it is the value of  $(\beta_0, \beta_1)$  that maximize the likelihood function. The MLE is the value of  $(\beta_0, \beta_1)$  that best describe the full distribution of the data. Here, the researcher used large sample that is 40% of the private manufacturing investors and the MLE to be consistent, normally distributed and efficient.

The logit model states that

$$\text{Pro}(y_i = 1) = F(\alpha + \beta X_i + e)$$

$$\text{Pro}(y_i = 0) = 1 - F(\alpha + \beta X_i + e)$$

Where  $F(-)$  is the cumulative logistic distribution function error term.

Example, Decision to give bonus for the firm's workers or not.

$Y^* = Xb + e$  is refers giving bonus index. If an individual's giving index exceeds zero, the owner gives them such individuals need little encouragement to give a bonus since they have high positive error.

The researcher maximizes the likelihood with respect to the B vector, which produces the MLE of B. For the nth individual than the probability of getting employment opportunity is estimated as,

$$\text{Example, } \text{pro}(\text{getting employment opportunity} = 1) = \frac{e^{BX}}{1 + e^{BX}}$$

The dependent variable is equal to the natural log of the odds of a particular choice or event taking place. This will tell the likelihood of being in the 1 category relative to being in the 0 category.

The odds ratios  $e^b$  is the estimated odds ratio associated with a unit change in X, controlling for all other variables in the model.

Interpretation of dummy independent variables with logistic regression model let's say the researcher examining the impact of private manufacturing investment being employed

controlling for two other variables (  $X_1$  and  $X_2$  ), employment = 1 if the person is employed and 0 otherwise. Let's include employed in the model and compare the effect of being employed with the effect of not employed or unemployed.

$$\text{Pro}(Y = 1) = \frac{e^{BX}}{1 + e^{BX}}$$

$$y = a + b_1X_1 + b_2X_2 + b_3(\text{employed}) + e$$

The  $b_3$  coefficient and the significance level for  $b_3$  will indicate whether there is a difference level for  $b_3$  will indicate whether there is a difference in employment condition or status between employed and unemployed and the direction of that difference.

A positive coefficient estimate tells us that employed individuals are more likely to be benefited in the private manufacturing investment than unemployed.

A negative coefficient estimate tells us that employed individuals are less likely to be benefited in the private manufacturing investment than unemployed.

In logit model the error term is assumed to be logically distributed while in probit model error term is assumed normally distributed.

### **Variables included in the Model**

In selecting the potential explanatory factors that affect the explained variable, key consideration is likely to be exogenous to the dependent variable. Moreover, selection of variables to the model is also guided by the findings of similar studies ( Bhat and Jain, 2006, Cole, et al, 2007 and McCarthy, 2003).

For this study, the two models are factors influencing impact of private manufacturing investment whether it effect positively or not for the local economy.

The variables that affect the impact of private manufacturing investment Additional Income in addition to the workers' monthly salary, Increase number of workers of private firms, Supply of Electric Power, Experience of working in private firms, Salary increasment, Initial number of workers, Kind of Guarantee or Insurance, market opportunity out of Tigray for the private manufacturers, Number of workers in the department, opportunities for private manufacturing investment, participation on different market areas, problems were faced which related with infrastructure, problem faced which related during the production process, skilled number of recruited skilled workers or manpower and Years of Tax Exemption from profit tax.

### **3.5 Description of Dependent and Explanatory Variables**

Here, there are two kinds of variables the dependent variables and explanatory variables

There are three dependent variables these are:

- the employment opportunity,
- the income of the private manufacturing investors and
- the income of the workers of private firms

There are 15 explanatory variables on both the private investors and the workers of private firms.

These are:

AddInc :Additional Income from part-time in addition to the workers' monthly salary,

Chagin :Increase number of workers of private firms per year,

ElecPower :supply of Electric Power,

Exinfirm: Experience of working in private firms,

InIncrea: Salary increasment,

InNoWkrs: Initial number of workers of the firms,

KindOGte: Kind of Garentee or Insurance during working time,

MktOppo: market opportunity out of Tigray for the private manufacturers,

NoWork : Number of workers in the department,

Oppotu :opportunities for private manufacturing investment,

PMktArea: participation on different market areas,

PoINFstr: problems were faced which related with infrastructure,

ProFaced: problem faced which related during the production process,

RctSmpr: number of recruited skilled workers or manpower,

YrsOTExe: Years of Tax Exemption from profit tax,

## **CHAPTER FOUR**

### **4.Results and Discussions**

In this section the study presents the empirical findings and discussions from the data obtained and analyzed using descriptive and econometric analysis. For this study, private manufacturing investors, workers of private firms and Investment Bureau were included in the study.

#### **4.1Descriptive Analysis**

##### **4.1.1 Respondents' Demographic Characteristics**

There were two kind of respondents they were 55 private manufacturing investors and out of 51(92.7%) them were males and the rest 4(7.3%) of them were females. In addition to this there were 150 workers of the private firms and out of them the 125(83.3%) were males while the rest 25(16.7%) were females. So, in general there were 205 respondents were found in the study out of them the 176(85.9%) respondents were males while the rest 29(14.1%) were females.

According to the study, the mean age of the private investors was 51 years age with minimum of 30 and maximum of 70 years of age. On the other hand, the mean age of the workers of private firms was with minimum 20 years age and maximum of 60 years of age. In general, the mean age of both the private investors and the workers of private firms was 42 years age with minimum 20 years age and maximum of 70 years of age.

With regard to education level of private investors 19(34.5%) were under grade 10 and 21(38.2%) were grade 10/12 complete. And the rest 11(20%) were diploma holders and the rest 4(7.3%) were degree and above respectively.

- According to the data 38.2% of the private manufacturers are complete of grade 10/12 and this has its own influence relatively with the educated one on the investment activities. This is in terms of accepting the new system of production, new technology, and new system of administration and others.
- For example, here the researcher compared two private firms for their system of administration. Huda food complex firm is huge on its capital, number of employed workers (67 workers). And the manager control the activities by using the daily attendance and daily follow up by rotating to the project.
- While Selam Aluminum and its product firm has 44 workers and it is small relatively with Huda food complex. But Selam has new technology there is camera install in all

rounded the firm and the manager control the whole activities of the firm in a simple way sitting in his office. When we see their academic level owner of Huda is grade 10 complete but Selam's owner is degree holder.

Therefore, most of the private manufacturers are grade 10/12 complete and this may has its influence on the investment activities. For this problem the private firms should to recruit educated workers. Table 4.1 Characteristics of Sample Private Manufacturing Investors

Educational category	Frequency	Percent	Cumulative
Read and Write only	---	---	---
Under grade 10	19	34.5	34.5
Grade 10/12 complete	21	38.2	38.2
TEVET Graduate	---	---	---
Diploma	11	20	20
Degree and Above	4	7.3	7.3
Total	55	100	100

*Source: Own Survey (2014)*

In addition to the private investors, there were 150 workers of private firms and out of them 51(3.3%) were under grade 10 and 21(14%) were grade 10/12 complete and 4(2.7%) were TEVET graduates. And the rest 79(53%) were diploma holders and 41(27%) were degree and above respectively.

- ❖ According to the data 53% of the workers of the private firms are diploma holders.
- ❖ And this has its own positive effect on the impact of private manufacturing sector in terms of income generation, employment opportunity and market stability.
- ❖ Especially, the educated workers can be take the employment opportunity and this also used for both the workers as well as the private manufacturers.

Table 4.2 Characteristics of Sample of Workers of Private firms

Educational catagory	Frequency	Percent	Cumulative
Read and Write only	---	---	---
Under grade 10	41	27.3	27.3
Grade 10/12 complete	22	14.7	14.7
TEVET Graduate	4	2.7	2.7
Diploma	63	42	42
Degree and Above	20	13.3	13.3
Total	55	100	100

*Source: Own Survey (2014)*

Generally, with regard to Education level of the respondents to gether there were 60(29.3%) of them were under grade 10 and 43(21%) were grade 10/12 complete and 4(1.95%) were TEVET graduates.And the rest 74(36.1%) were diploma holders and the rest 24(11.7%) were degree and above.

#### **4.2Econometric Analysis**

In this section the study presented the results of logit model of analysis and regression model of analysis with the estimation tool ofmaximum likelihood in order to estimate theimpact of private manufacturing investment on the local economy. As described in the methodology part, there were two equations in the model: selection and outcome equations. The selection equation estimates effect of factors that affect the private manufacturing investment on the local economy.The outcome equation estimates the effect of private manufacturing investment on the employment opportunity, income generation and market stability. The first step logit and regression model of analysis were used to construct the selectivity term and added to the outcome equation as independent variable.

Data exploration is an important preliminary step before estimation is done. The precision of estimating the coefficients of variables is reduced by the existence of multicollinearity between variables that is if the explanatory variables are highly correlated it is difficult to distinguish the effects of one single explanatory variable on the dependent variable ( Maddala, 1992, pp 269-270 ). Gujarati has established a rule of thumb which says that multicollinearityis a series

problem when a pair wise correlation coefficient between two regressors is greater than or equal to 0.8 ( Gujarati, 1998, p 229).

Econometric theory tells us that we are likely to encounter heteroscedasticity frequently in econometric data, particularly with cross-sectional data. Before passing in to the analysis of the result of the estimation of the models, test on the possible existence of hetroscedasticity is important for this study. The violation of homoscedastcity assumption in the general linear model ,OLS estimates are consistence but inefficient( Maddala 1983).

#### **4.2.1 Results and Discussions of the Logit Model**

The logit estimation results obtained using STATA version 12 is given in the tables. The coefficients of the logit model give the significance and the direction of the effects of each explanatory variable on the impact of private manufacturing investment on the local economy .The marginal effects indicates that the probability that respondents accept or reject the impact of private manufacturing investment due to a change of dummy variables from 0 to 1, for discrete variables (Greene, 1993). Both the coefficients and marginal effects of the logit model was given in the table 4.5.1.

Table 4.5.1

```
. ologit ImpctPMI i.MktOppo i.PMktArea i.ProFeced i.Opportu i.RctSMPr
```



```

Iteration 0:  log likelihood = -31.200068
Iteration 1:  log likelihood = -22.45555
Iteration 2:  log likelihood = -21.857128
Iteration 3:  log likelihood = -21.850579
Iteration 4:  log likelihood = -21.850573
Iteration 5:  log likelihood = -21.850573

```

```

Ordered logistic regression      Number of obs   =      55
                                LR chi2(5)           =     18.70
                                Prob > chi2           =     0.0022
                                Pseudo R2             =     0.2997

Log likelihood = -21.850573

```

ImpctPMI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
2.MktOppo	2.400821***	.9984293	2.40	0.016	.443936	4.357707
2.PMktArea	3.076676**	1.577339	1.95	0.051	-.0148504	6.168203
2.ProFeced	-1.580536	1.147613	-1.38	0.168	-3.829817	.6687438
2.Opportu	2.642758***	1.006849	2.62	0.009	.6693709	4.616145
2.RctSMPr	1.069105	1.123291	0.95	0.341	-1.132506	3.270716
/cut1	1.800425	1.051234			-.2599569	3.860806

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

The researcher used the logit command to estimate a logistic regression model. The i. before rank is a factor variable and that should be included in the model as a series of indicator variables.

$$Y = \beta_0 + \beta_1 \text{MktOppo} + \beta_2 \text{PMktArea} + \beta_3 \text{Opprtu} + \varepsilon_i$$

Y: is impact of private manufacturing investment

$\beta$ s: are parameters or the magnitudes

MktOppo: is market opportunity out of Tigray for the private manufacturers,

Oppotu :is opportunities for private manufacturing investment,

PMktArea: is participation on different market areas,

$\varepsilon_i$ : is the error term

- In the output above, the researcher first saw the iteration log, indicating how quickly the model converged. The log likelihood (-21.857128) can be used in comparisons of nested models.

- Also at the top of the output the researcher saw that all 55 observations in the data set were used in the analysis.
- In the table the researcher saw the coefficients, their standard errors, the z-statistics, associated p-values, and the 95% confidence interval of the coefficients. Both MktOppo (or market opportunity out of Tigray), PMktArea (or participation on different market areas) and Opportu (opportunities for private manufacturing investment) are statistically significant while the variables ProFaced (problem faced during the production process) are statistically insignificant in the analysis. The logistic regression coefficients give the change in the log odds of the outcome for a one unit increase in the predictor variable. It deals with  $e^{\beta X}$  this is the value of

$e = 2.71828$  and  $\beta$ s represent the magnitudes and  $X$ s also for the explanatory variables. Therefore, the result of odds ratio:

For the market opportunities is  $e^{\beta_1 X_1} = 2.71828^{2.401}$

For the participation on different market areas is  $e^{\beta_2 X_2} = 2.71828^{3.077}$

For the opportunities for the private manufacturing investment is  $e^{\beta_3 X_3} = 2.71828^{2.643}$

The interpretation for the coefficients is presented as follows:

- ❖ The coefficient MktOppo is significant at 1% for every one unit change in MktOppo, ImpactPMI (impact of private manufacturing investment) will be increased by 2.401 units.
- ❖ The coefficient PMktArea is significant at 5% for every one unit change in PMktArea, ImpactPMI (impact of private manufacturing investment) will be increased by 3.077 units.
- ❖ The coefficient Opportu (opportunities for private manufacturing investment) is significant at 1% for every one unit change in Opportu, ImpactPMI (impact of private manufacturing investment) will be increased by 2.643 units.
- ❖ The rest two variables ProFaced (problem which is faced during the production process) and RctSMpr (Recruit skilled manpower) are statistically insignificant in the analysis.

Generally, when the market opportunity increase by one unit the impact of private investment will be increased by 2.401unitssimilarly when the participation of market area increase by one unit the impact of private manufacturing investment will be increased by 3.077 units when the opportunities for private manufacturing investment increase by one unit the impact of private manufacturing investment will be increased by 2.643unitson the local economy but the variables of problem which is faced during the production process and recruit skilled manpower were statistically insignificant in the analysis. Therefore, investment opportunities, market participations and investment opportunities are positive relation with the impact of private manufacturing investment.

#### 4.2.2. Results and Discussions of the MultivariateRegression Model

The regression estimation results obtained using stata version 12 is given in the tables. The coefficients of the regression model give the significance and the direction of each explanatory variable on the impact of private manufacturing investment for the local economy due to a unit change in continuous explanatory variables which are effect on the dependent variables. Both the coefficients and marginal effects of the regression model of the analysis was given in the (Table 4.2.2.).

**Table 4.2.2**

. mvreg ChNoWkrs = ElecPower PoINFStr InNoWkrs Chagin RctSMPr KindOGte PMktArea Opportu YrsOTE						
Equation	Obs	Parms	RMSE	"R-sq"	F	P
ChNoWkrs	55	10	.1296893	0.7959	19.50286	0.0000
ChNoWkrs	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ElecPower	-.1357633*	.0739507	-1.84	0.073	-.2847076	.0131809
PoINFStr	-.045232	.0398479	-1.14	0.262	-.1254898	.0350258
InNoWkrs	.0254899	.0173466	1.47	0.149	-.0094479	.0604276
Chagin	.1065726***	.0259937	4.10	0.000	-.1589265	-.0542187
RctSMPr	.1956938***	.0664831	2.94	0.005	.06179	.3295976
KindOGte	.4472294***	.090007	4.97	0.000	.265946	.6285129
PMktArea	.2869093***	.0819491	3.50	0.001	.1218553	.4519633
Opportu	.0953641**	.0478577	1.99	0.052	-.1917544	.0010262
YrsOTExe	-.0259997	.0299213	-0.87	0.389	-.0862643	.0342648
_cons	.5655105**	.212635	2.66	0.011	.1372416	.9937795

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

The researcher used the multivariate regression command to estimate a regression model. Also at the top of the output we see that all 55 observations in the data set were used in the analysis.

$$Y = \beta_0 - \beta_1 \text{ElecPower} + \beta_2 \text{Chagin} + \beta_3 \text{RctSMpr} + \beta_4 \text{KindOGte} + \beta_5 \text{PMktArea} + \beta_6 \text{Oppotutu} + \varepsilon_i$$

Y: is employment opportunity

$\beta$ s: are parameters or the magnitudes

Chagin : is increase number of workers of private firms per year,

ElecPower : is supply of Electric Power,

KindOGte: is kind of Garentee or Insurance during working time,

Oppotutu : is opportunities for private manufacturing investment,

PMktArea: is participation on different market areas,

$\varepsilon_i$  is the error term

In the table the researcher saw the coefficients, their standard errors, the z-statistics, associated p-values, and the 95% confidence interval of the coefficients. All ElecPower (supply of Electric Power), Chagin (Increase number of workers of private firms), RctSmpr(skilled number of workers), KindOGte(Kind of Garentee or Insurance), PMktArea(or participation on different areas) and Oppotutu (opportunities for private manufacturing investment) are statistically significant while the rest four variables PoINFstr( problems related with infrastructure), InNoWkrs( Initial number of workers) and YrsOTExe( years of Tax Exemption) which are in the analysis were insignificant for the analysis. The multivariable regression coefficients give the change in the outcome for a one unit increase in the predictor variable.

The interpretation for the coefficients is presented as follows:

- ❖ The coefficient Chagin is significant at 1% for every one unit change in Chagin, the ChNoWkrs (employment opportunity) will be increased by 0.107 units.
- ❖ The coefficient PMktArea is significant at 1% for every one unit change in PMktArea, the ChNoWkrs (employment opportunity) will be increased by 0.287 units.
- ❖ The coefficient RctSMpr is significant at 1% for every one unit change in RctSMpr, the ChNoWkrs (employment opportunity) will be increased by 0.196 units.
- ❖ The coefficient KindOGte is significant at 1% for every one unit change in KindOGte, the ChNoWkrs (employment opportunity) will be increased by 0.447 units.

- ❖ The coefficient Opportu is significant at 5% for every one unit change in Opportu, the ChNoWkrs (employment opportunity) will be increased by 0.095 units.
- ❖ The coefficient ElecPower is significant at 10% ElecPower is significant but for every one unit change in ElecPower ,ChNoWkrs (employment opportunity) will be decrease by 0.136 units.

Generally, when the change of number of workers of private firms increase by one unit the employment opportunity will be increased by 0.107 units similarly when the skilled number of workers increase by one unit the employment opportunity will be increased by 0.196. And kind of Insurance for workers of private firms increase by one unit the employment opportunity will be increased by 0.447 units. When a change on opportunities for private manufacturing investment by one unit the employment opportunity will be increased by 0.095 units. When a change on the participation on different market areas increase by one unit the employment opportunity will be increased by 0.287 units. On the other side when the supply of electric power increases by one unit, the employment opportunity will be decreased by 0.136 units.

Therefore, the private manufacturing investment has its own positive effect on the local economy in terms of creating employment opportunity.

Table 4.5.3.

. mvreg Impaman = IncIncrea AddInc NoWork Exinfirm						
Equation	Obs	Parms	RMSE	"R-sq"	F	P
Impaman	150	5	.3361667	0.0927	3.702908	0.0067
Impaman	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
IncIncrea	.0485989	.0646094	0.75	0.453	-.0790989	.1762968
AddInc	.1009471**	.0386235	2.61	0.010	.0246093	.1772848
NoWork	-.0553325	.0459907	-1.20	0.231	-.1462311	.0355662
Exinfirm	.0778253**	.0303782	2.56	0.011	.017784	.1378666
_cons	.868334***	.1414709	6.14	0.000	.5887225	1.147945

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

In the table the researcher used were 150 observations on the workers of private firms and the researcher saw the coefficients, their standard errors, the z-statistics, associated p-values, and the 95% confidence interval of the coefficients. Both AddInc (Additional Income in addition to the workers' monthly salary) and Exinfirm( Experience of working in private firms) are statistically significant but the rest two variables InIncrea(Salary increasment) and NoWork ( Number of workers in the department) were insignificant. The multivariable regression coefficients give the change in the outcome for a one unit increase in the predictor variable. Both the coefficients and mariginal effects of the regression model of the analysis was given in the Table 4.5.3.

$$Y = \beta_0 + \beta_1 \text{AddInc} + \beta_2 \text{Exinfirm} + \varepsilon_i$$

Y: is impact of private manufacturing investment

$\beta$ s: are parameters or the magnitudes

AddInc :Additional Income from part-time in addition to the workers' monthly salary,

Exinfirm: Experience of working in private firms,

$\varepsilon_i$ : is the error term

- ❖ The coefficient AddInc (Additional Income in addition to the workers' monthly salary for the part-time) is significant at 1% for every one unit change in AddInc, Impaman(the impact of private manufacturing investment) will be increased by 0.1009 units.

The interpretation for the coefficients is presented as follows:

- ❖ The coefficient Exinfirm( Experience of working in private firms) is significant at 1% for every one unit change in Exinfirm, Impaman(the impact of private manufacturing investment) will be increased by 0.078 units.

Generally, when the additional income in addition to the workers' monthly salary for the part-time increase by one unit the impact of private manufacturing investment will be increased by 0.1009 units. Similarly when the experience of working in private firms increase by one unit the impact of private manufacturing investment will be increased by 0.078 units on the local economy but the variables of change number of workers and salary increasment were statistically insignificant in the analysis. Therefore, the additional income for the workers' part-time and working experience in private firms has a positive effect on the impact of private manufacturing investment.

The manufacturing sector is expected to solve the problem of employment opportunity, the shortage of the production in the market and the income of the private manufacturers as well as the workers of these firms. According to this, when we see the previous 20 years this is from 1985 EC until 2005 EC there is increasment on the number of private manufacturing investors who are on operation.

#### *Investment flow*

<i>No</i>	<i>Time</i>	<i>Number of private manufacturers on operation</i>
1	1985---1989	8
2	1990---1994	24
3	1995---1999	26
4	2000---2004	37
5	2005	42
	<i>Totally</i>	<i>137</i>

*Source: Zonal Investment Bureau Annual Report, 2005EC Budget Year*

From the given data the number of private manufacturing investment who are on production are increase from year to year. According to the number of the manufacturers their initial capital and employment opportunity also increase. When we see the manufacturers initial capital was 1,060,605,149 Birr and their employment opportunity also 7,490 ( i.e permanent 6,527 and Temporary 963 ) workers. And the actual capital is 6,956,640,329.30 Birr and the employment opportunity also 11,526 (i.e permanent 10,869 and Temporary 657) workers.( Zonal Investment Bureau Annual Report, 2005EC Budget Year).

Therefore, when the researcher compared the initial and actual capital it increases from 1,060,605,149 Birr in to 6,956,640,329.30 Birr this shows us it increases more than six times of the initial capital. In addition to capital the employment opportunity also increases from 7,490 workers in to 11,526 workers and it increases more than 54% of the initial. So, the private manufacturing sector can be playing its own positive role on employment opportunity and income generation.

### **4.3 Opportunities and Incentives for Private Manufacturing Investment**

#### **4.3.1. Opportunities for private manufacturing investors**

There are good opportunities for private manufacturing investment in Mekelle. These opportunities also used by different private investors. Some of them are:



- Good and Fast means of transportation,
- Easily trainable labor force,
- Higher educational institutions,
- Industry zone with faire price for payment of leathe.

Mekelle is well connected with different orts and it has good and fast means of transportation and this is used for the purpose of trade. According to this, the town has the land and air means of transportation.

Distance of the town from different places / ports

Port	To Mekelle
Djibuti	940 km Via kombelchaWeldia
	837 km Via mille Chifra
	708 km Via SemeraMehoni
	680 km Via SerdoShiket
Sudan	1579 km Via Kesela, Gedarif , Humera
	1339 km Via Kesela, Humera, Shire
Masawa	391 km Via AsmeraAdigrat
Aseb	899 km Via ElidarKombelcha
Berbera	1736 km Via Addis Abeba

*Source: Regional Investment Bureau Annual Blosher of 2005 E.C Budget year*

Depending on the distance, the private manufacturing investors can used the Djubuti port and the Mekelle Dry Port in order to import different machineries and raw-materials. Especially, the distance from Djibouti to Mekelle via Semera, Mehony which is 708 Km but by now from Djibouti via Serdo, Shiket is the shortest of all it is 680 Km. And this is used the trade will be fast transportation for the purpose of import-export activities. In addition to the land transportation, the town has standardized air port which is called Ras Alula Aba Nega international air port and it has four times flight to Addis Abeba a day.

The population of the town was projected by the central statistical agency to reach 273,601 by 2012. This is nearly seven fold increase over the past 40 years which suggests low robust the city's growth has been in recent decades.And this helps the private manufacturing investors in order to get labor force easily. Especially, the young and easily trainable force found in the town and this is good opportunity for the firms.

On the other hand there are higher educational institutions and helps the investment activities of the town. For example, there is resource identification and project ideas which are done by the

cooperate of Mekelle University and Millenium Cities Initiative. They prepared five project ideas and give to the investment bureau in order to give the full information. And this document has full information about the town's resources then the private investors can be taken ideas on what they will invest. In addition to the project idea the private investors can be take short training and discussion programme. Their training focusedon how they designed for extra project , how they compute in the market and others. The discussion programme also prepared in terms of experience sharing with the private manufacturing investors who are found in Addis Abeba and other region investors. Hence, the presence of such kind of institutions is a good opportunity for the private manufacturing sector.

The town also has it's own Industry zone with full of infrastructure such as: Electric Power, Water and Road. There are 327 hectars reserved in the industry zone with the 0.75 Birr per m2. Out of the the reserved area 100 hectar is used by 137 private manufacturing investors who are on operation ( i.e investors on production ) and the other 100 hectar is on the construction process for different kind of manufacturing. The rest 137 hectar is reserved for new comer private manufacturers. Therefore, the low price and the reserved hectars are good opportunity for the private manufacturing sector.

#### **4.3.2. Incentives for the private manufacturing investors**

Investment Incentives and Investment Areas Reserved for Domestic Investors. Exemption income tax for new enterprise, For Example, Food industry such as: processing of meat and meat products, Fish and Fish products Fruit and/or Vegetables manufacturing of edible oil and others can be exempted from income tax for 5 years. Vehicles, Trailers and Semi-Trailers industry such as: manufacturers of bodies/ Components for motor vehicles, trailers, manufacturing parts and accessories for motor vehicles and others can be exemption from income tax to four years. (Tax ExemptionRegulation No 270/2012 Federal Neggaritte Gazette- No 4 November 29<sup>th</sup> 2012)

Additional income tax for investors when exporting products/services have additional incentives. When investors export at least 60% of their products/services,they can take additional two years exempt from income tax. (Tax exemption Regulation No 270/2012 Federal Neggaritte Gazette- No 4 November 29<sup>th</sup> 2012)

In addition to income tax exemption there is also exemption of tax for the imported capital goods, construction materials and raw materials from custom duty . (Federal Neggaritte Gazette- No 4 November 29<sup>th</sup>2012 Part Two Section One No 13)

Where an investor was not used the incentives of tax exemption he/she can use his/her right at any time. Council of Ministers Regulation No 84/2003 as amended and directives issued there under has not yet exercised his/her right ,opts instead to be a beneficiary of incentives provided for in this regulation , he/she may notify there to. (Federal Neggaritte Gazette- No 4 November 29<sup>th</sup>2012 Part three Section One No 7:2)

On the other hand, there is incentive on the tax exemption in two ways. One is the manufacturers can be exempted from income tax and from imported capital goods. For this purpose, the government is designed different articles and regulations in order to encourage investment. For Example;Manufacturing is one of the key sectors of development and the government also encourage this sector through different reforms. One of them is “Investment and Investment Areas Reserved for Domestic Investors”. (Federal NegaritteGazetta No 4 November 29<sup>th</sup> 2012 Council of Ministers Regulation No 84/2003)

According to the stated article,Mekelle Town Administration and Investment Bureau prepared 327 hectares as industry zone with the cost 0.75 cents per m<sup>2</sup>. And 100 hectares have been taken for investors who are produced different kind of production and 100 hectares on the construction process the rest 127 hectares is reserved for new entrants of private manufacturing sector. (Mekelle zone Investment office Annual Report of 2005 EC Budget Year)

## **CHAPTER FIVE**

### **5. Conclusions and Recommendations**

#### **5.1. Conclusions**

Private manufacturing investment is strongly associated with the Socio-economic situation of a country like employment opportunity, income generation, market stability and others which related the life standard of a people.It has a high impact on the whole economy in general and for the local economy in specific. In modern world private manufacturing sector play its own role for the economic growth. According to the importance of the sector, in addition to the government activities the private investors also expected to play their own role on manufacturing development and then to industrialization. These points on the search for some mechanisms

introduced for the sake of private manufacturing sector in Mekelle. Therefore, this study tried to analyze the level of understanding and impact of private manufacturing sector on the local economy. So, the sector has an opportunity and incentives in order to develop the private sector in the town.

According to the importance private manufacturing investment the sector can be applied in terms of structural change from agriculture based economy in to industry based economy. This can be applied by using different ways. One way is seen to be triggered by a shift in labor from lower to the higher productivity sector. Second by a shift in capital or through an increase in the capital-labor ratio. Third by improvement in overall technology or a combination of all the three points may be help to encourage the manufacturing sector. Because manufacturing jobs tend to be more productive than others and this particular feature of manufacturing is central point for the growth. Therefore, private manufacturing investment plays its own role on the process of economic development.

Investment Incentives and Investment Areas Reserved for Domestic Investors. Exemption income tax for new enterprise, For Example, Food industry such as: processing of meat and meat products, Fish and Fish products Fruit and/or Vegetables manufacturing of edible oil and others can be exempted from income tax for 5 years. Vehicles, Trailers and Semi-Trailers industry such as: manufacturers of bodies/ Components for motor vehicles, trailers, manufacturing parts and accessories for motor vehicles and others can be exemption from income tax to four years. (Tax Exemption Regulation No 270/2012 Federal Neggaritte Gazette- No 4 November 29<sup>th</sup> 2012)

In addition to the Federal Government incentives, the town also prepared some opportunities which related with infrastructure and land ready for private manufacturing investors. According to this the city's Administration and Investment Bureau prepared 327 hectares as industry zone with the cost 0.75 cents per m<sup>2</sup>. And 100 hectares have been taken for investors who are produced different kind of production and 100 hectares on the construction process the rest 127 hectares is reserved for new entrants of private manufacturing sector. (Mekelle zone Investment office Annual Report of 2005 EC Budget Year)

The overall objective of the study is to assess the impact of private manufacturing investment for the local economy. The researcher used both the primary and secondary data. The primary data collected from the private manufacturing investors and the workers of different private firms by using structured questionnaire was designed and conducted on a sample size of 205 ( 55 private

manufacturers and 150 workers of private firms) respondents. The secondary data also collected from the documents of Mekelle City Investment Bureau by using check-list which has open-end questions. Therefore, respondents of primary data were categorized in to private manufacturing investors and the workers of different firms. The data was analyzed by using both descriptive and econometric techniques.

The study grouped the respondents in to the private manufacturing investors are 55(40%) of the 137 manufacturers who are on operation (i.e on production) and on the other side the 150 (40%) workers of private firms these were out of 375 workers. For econometric analysis, in this study the logit and the regression models of analysis were applied.

The analysis of selection model revealed that opportunities for private manufacturing investment, access of electric power, market areas, number of workers, incentives for the private investors and way of insurance, additional income and impact of the private manufacturing investment has significant impact on the local economy. In the outcome eight variables have found to significantly affect the impact of private investment. These are Chagin (Increase number of workers of private firms), RctSMpr, KindOGte (Kind of Garentee or Insurance), Opportu (opportunities for private manufacturing investment), ElecPower (supply of Electric Power), MktOppo and PMktArea (or participation on different areas), AddInc (Additional Income in addition to the workers' monthly salary), Exinfirm (Experience of working in private firms) are statistically significant while other variables like PoINFstr (problems related with infrastructure), InNoWkrs (Initial number of workers), YrsOTExe (years of Tax Exemption) and ChagNoWkrs (change number of workers) were insignificant in the study.

The overall result suggested that impact of private manufacturing investment on the local economy has significant impact. Therefore, further attempts in order to expand the private manufacturing sector is essential.

## **5.2 Recommendations**

Based on the analysis of impact of private manufacturing investment on the local economy factors that affect private manufacturing sector on employment opportunity, income generation and market stability in Mekelle, different policy implications could be suggested. The following are the main recommendations and implications of the study related to the empirical findings.

In this study the major finding revealed that the positive and significant impact of private manufacturing investment is great importance to improve problems of private manufacturing investment. In this regard, more attention should be given on opportunities and incentives for the private manufacturing sector. And this is an important point which are strengthen for the private sector in terms of creating a sweatable opportunities and give incentives such as: Tax exemption, Due to free for raw materials and Loan from Development Bank, Technical supports such as: preparing studies on project profiles and these are motivating for the private manufacturing investors.

Furthermore, this study used a panel data which could be difficult to address and control all impacts of private manufacturing investment. So, other researchers can use a panel data to better address the problem and to observe changes over time with regard to the impact of private manufacturing investment and it is also helpful to come up with reliable information about the area. Therefore, further investigation should be conducted regarding the sector although private manufacturing investment is at infant stage in Mekelle.

Generally, based on the finding, the researcher drawn the following important policy implications.

- Policy makers need to consider that flow of private manufacturing investment strengthen through creating packages to be motivated the sector,
- Consider the effect of awareness on the manufacturing sector and continuous support from policy designing till the implication stages.
- Opportunities and Incentives should to designing and updating by the authorized body.
- The authorized body should to evaluate the impact of private manufacturing investment continously in order to in order to keep the strength side and to readjust the weak sides of packadges.

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# Annexes

## Logistic regression

### Annex 4.2.1

Table 4.5.1

```
. ologit ImpctPMI i.MktOppo i.PMktArea i.ProFeced i.Opportu i.RctSMPr
```

```
Iteration 0: log likelihood = -31.200068
Iteration 1: log likelihood = -22.45555
Iteration 2: log likelihood = -21.857128
Iteration 3: log likelihood = -21.850579
Iteration 4: log likelihood = -21.850573
Iteration 5: log likelihood = -21.850573
```

```
Ordered logistic regression                                Number of obs   =           55
                                                           LR chi2(5)      =          18.70
                                                           Prob > chi2     =          0.0022
Log likelihood = -21.850573                                Pseudo R2      =          0.2997
```

ImpctPMI	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
2.MktOppo	2.400821***	.9984293	2.40	0.016	.443936	4.357707
2.PMktArea	3.076676**	1.577339	1.95	0.051	-.0148504	6.168203
2.ProFeced	-1.580536	1.147613	-1.38	0.168	-3.829817	.6687438
2.Opportu	2.642758***	1.006849	2.62	0.009	.6693709	4.616145
2.RctSMPr	1.069105	1.123291	0.95	0.341	-1.132506	3.270716
/cut1	1.800425	1.051234			-.2599569	3.860806

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

**Table 4.2.2**

```
. mvreg ChNoWkrs = ElecPower PoINFStr InNoWkrs Chagin RctSMPr KindOGte PMktArea Opportu YrsOTE
```

Equation	Obs	Parms	RMSE	"R-sq"	F	P
ChNoWkrs	55	10	.1296893	0.7959	19.50286	0.0000

ChNoWkrs	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
ElecPower	-.1357633*	.0739507	-1.84	0.073	-.2847076	.0131809
PoINFStr	-.045232	.0398479	-1.14	0.262	-.1254898	.0350258
InNoWkrs	.0254899	.0173466	1.47	0.149	-.0094479	.0604276
Chagin	.1065726***	.0259937	4.10	0.000	-.1589265	-.0542187
RctSMPr	.1956938***	.0664831	2.94	0.005	.06179	.3295976
KindOGte	.4472294***	.090007	4.97	0.000	.265946	.6285129
PMktArea	.2869093***	.0819491	3.50	0.001	.1218553	.4519633
Opportu	.0953641**	.0478577	1.99	0.052	-.1917544	.0010262
YrsOTE	-.0259997	.0299213	-0.87	0.389	-.0862643	.0342648
_cons	.5655105**	.212635	2.66	0.011	.1372416	.9937795

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

### Annex 4.5.3

. mvreg Impaman = IncIncrea AddInc NoWork Exinfirm						
Equation	Obs	Parms	RMSE	"R-sq"	F	P
Impaman	150	5	.3361667	0.0927	3.702908	0.0067
Impaman	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
IncIncrea	.0485989	.0646094	0.75	0.453	-.0790989	.1762968
AddInc	.1009471	.0386235	2.61	0.010	.0246093	.1772848
NoWork	-.0599077	.0356907	-1.68	0.097	-.1462311	.0355662
Exinfirm	.0778253	.0303782	2.56	0.011	.017784	.1378666
_cons	.868334	.1414709	6.14	0.000	.5887225	1.147945

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%

### Annex 4.5.4

Fitting full model:

Iteration 0: log likelihood = 39.302139  
 Iteration 1: log likelihood = 39.763265  
 Iteration 2: log likelihood = 39.820479  
 Iteration 3: log likelihood = 39.820583  
 Iteration 4: log likelihood = 39.820583

Truncated regression

Limit: lower = -inf Number of obs = 55  
 upper = +inf Wald chi2(9) = 214.53  
 Log likelihood = 39.820583 Prob > chi2 = 0.0000

ChNoWkrs	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
ElecPower	-.1357633**	.0668909	-2.03	0.042	-.2668671	-.0046596
YrsOTExe	-.0259997	.0270648	-0.96	0.337	-.0790458	.0270463
Opportu	.0953641**	.0432889	2.20	0.028	-.1802088	-.0105194
RctSMPr	.1956938***	.0601362	3.25	0.001	.077829	.3135586
KindOGte	.4472294***	.0814144	5.49	0.000	.2876602	.6067987
PMktArea	.2869093***	.0741258	3.87	0.000	.1416254	.4321931
PoINFStr	-.045232	.0360438	-1.25	0.210	-.1158765	.0254126
Chagin	.1065726***	.0235121	4.53	0.000	-.1526555	-.0604896
InNoWkrs	.0254899	.0156905	1.62	0.104	-.005263	.0562428
_cons	.5655105**	.1923356	2.94	0.003	.1885396	.9424815
/sigma	.1173084	.0111849	10.49	0.000	.0953863	.1392304

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

### ANNEX 4.5.5

. mfx

Marginal effects after mvreg

y = Linear prediction (predict)

= 1.0727273

variable	dy/dx	Std. Err.	z	P> z	[	95% C.I.	]	X
ElecPo~r	-.1357633**	.07395	-1.84	0.066	-.280704	.009177		1.07273
PoINFStr	-.045232	.03985	-1.14	0.256	-.123332	.032868		2.12727
InNoWkrs	.0254899	.01735	1.47	0.142	-.008509	.059488		1.98182
Chagin	.1065726***	.02599	4.10	0.000	-.157519	-.055626		1.49091
RctSMPr	.1956938**	.06648	2.94	0.003	.065389	.325998		1.14545
KindOGte	.4472294***	.09001	4.97	0.000	.270819	.62364		1.05455
PMktArea	.2869093***	.08195	3.50	0.000	.126292	.447527		1.07273
Opportu	.0953641**	.04786	1.99	0.046	-.189163	-.001565		1.2
YrsOTExe	-.0259997	.02992	-0.87	0.385	-.084644	.032645		1.21818

\*\*\* Significant at 1%, \*\*Significant at 5%, \* Significant at 10%

Annex

QUESTIONNAIRE

**A. Private manufacturing investors survey questionnaire**

**Mekelle University College of Business and Economics**

**Department of Economics**

*This survey will be conducted by student of Mekelle university college of Business and Economics Department of Economics as a partial fulfillment for the award of MSc degree in Economics. It will be used to learn the performance of private manufacturing investors' investment and its impact on the local economy. Your response will be used for academic purpose only and be sure that it will not be transferred to third person and will be kept confidentially.*

**General Description**

**1. Respondents Name and Address**

*Name of the firm's owner -----*

*Kind of Sector -----*

*Note; that the respondent must be the owner or manager of the firm.*

*Please, thick the X mark in the box and give your opinion on the blank space where necessary.*

*Thank you*

**1. What is your sex?**

❖ *Male* ☐

❖ *Female* ☐

**2. What is your age? \_\_\_\_\_**

**3. What is your marital status?**

❖ *Married* ☐

❖ *Single* ☐

❖ *Widowed* ☐

❖ *Divorce* ☐

**4. What is your academic level?**

❖ *Read and Write Only* ☐

❖ *Under grade 10* ☐

❖ *Grade 10/12 complete* ☐

❖ *TEVET graduate* ☐

❖ *Diploma* ☐

❖ *Degree and above* ☐

**5. When you take the investment license, is there any problem to take it?**

❖ Yes ☐

❖ No ☐

**6. If your response for question no 1.is yes which is the problem?**

❖ *There is long and bulky chain* ☐

❖ *The investors have not enough awareness* ☐

**7. Are there opportunities for private manufacturing investment in your town?**

❖ Yes ☐

❖ No ☐

**8. If your answer for question no 7.is yes, on what is the opportunity?**

❖ *Taking the working place easily* ☐

❖ *The presence of higher educational institutions* ☐

❖ *Good and attractive temperature* ☐

**9. How much price for the land /Leathe / per m2 in your town?**

❖ *Less than one birr* ☐

❖ *It is not constant* ☐

**10. Is the price of land per m2 faire?**

❖ Yes

☐☐

❖ No

**11. Is there opportunity of getting easily trainable labor force?**

❖ Yes ☐

❖ No ☐

**12. If your response for question no 11.is Yes, what are the benefits for the private investors?**

❖ The private investors can minimize labor cost ☐

❖ The private investors will have opportunity to select labor force ☐

**13. When you want additional land for working place. At how long you take from authorized bodies?**

❖ Below 10 days ☐

❖ 11 until 20 days ☐

❖ More than one month ☐

**14. Is there incentives for your project?**

❖ Yes ☐

❖ No ☐

**15. If your response for question no 14 is Yes, which incentive is you get?**

❖ Tax exemption and due to free for machineries ☐

❖ Only tax exemption ☐

❖ Only due to free for machineries ☐

**16. If your response for question no 15 is tax exemption for how long years you exempted from profit tax?**

❖ From 2—4 years ☐

❖ From 3-5 years ☐

❖ More than 4 years ☐

**17. Do you have enough electric power in your project?**

❖ Yes ☐

❖ No ☐

**18. What is the impact of private manufacturing investment for the local economy?**



❖ The market can be taken enough production of the firms and increase employment opportunity ☐

❖ There is no much useful for local economy ☐

**19. What are the problems faced you which are related with infrastructure?**

❖ Problem of communication ☐

❖ Fragment of electric power ☐

❖ Shortage of water ☐

**20. When you started your project, how many worker you employed?**

❖ Less than 20 ☐

❖ 20- 30 workers ☐

❖ 30-45 workers ☐

❖ 46-60 workers ☐

❖ 81—100 workers ☐

❖ More than 100 workers ☐

**21. When you compare the number of workers initially and now, is there any increase in your firm?**

❖ Yes ☐

❖ No ☐

**22. If your response for question no 21. Is yes, by how much you increase your number of workers?**

❖ Less than 30% ☐

❖ 31%—50% ☐

❖ 51%—70% ☐

❖ 71%---100% ☐

**23. Is your project recruits skilled manpower who are certified from higher educational institutions?**

❖ Yes ☐

❖ No ☐

**24. When you recruited new workers, do you give them on job training or orientation?**

☐

❖ Yes ☐

❖ No ☐

**25. Do your workers have the right in order to be guarantee during the working in your firm?**

❖ Yes ☐

❖ No ☐

**26. If your response for question no 25.is yes, which one is used for your workers?**

❖ Pension ☐

❖ Provident fund ☐

**27. Do you have market opportunities out of Tigray?**

❖ Yes ☐

❖ No ☐

**28. If your response for question no 27.is Yes, which are your market places/**

❖ Afar ☐

❖ Amhara ☐

❖ Addiss-Abeba ☐

❖ Oromia ☐

❖ Others ☐

**29. Is your participation in different market areas increase from time to time?**

❖ Yes ☐

❖ No ☐

**30. If your response for question no 29.is Yes, Averagely, by how much your production increase when you compare the previous two years production?**

❖ Less than 20% ☐

❖ 21%---40% ☐

❖ 41%---60% ☐

❖ More than 60% ☐

**31. Is your product compute with the imported product in the market?**

❖ Yes ☐

❖ No ☐

**32. During your production process, what kind of shortages your firm faced?**

- ❖ Raw materials
- ❖ Skilled man power
- ❖ Transportation
- ❖ Foreign currency

**33. Do you have a programe to discuss with the workers of your firm?**

- ❖ Yes
- ❖ No

**34. If your response for question no 33 is Yes, how often you discuss with them?**

- ❖ Once a month
- ❖ Quarterly
- ❖ Twice a year
- ❖ Once a year

**35. Did you have an opportunity of getting loan/credit from Development Bank for the purpose of your manufacturing firm?**

- ❖ Yes
- ❖ No

**36. If your response for question no 35.is Yes, how could you use the loan?**

- ❖ Depending on the Development Bank's policy
- ❖ Simply use the money what I like

**37. When you compare your firm's capital with the initial and actual status is there increasment?**

- ❖ Yes
- ❖ No

**38. If your responsefor question no. 37. Is yes by how much it increases?**

- ❖ Less than 20%
- ❖ 21% till 30%
-

❖ More than 31%

**B. Workers of Private manufacturing survey questionnaire**

**Mekelle University College of Business and Economics**

**Department of Economics**

*This survey will be conducted by student of Mekelle University college of Business and Economics Department of Economics as a partial fulfillment for the award of MSc degree in Economics. It will be used to learn the performance of private manufacturing investors' investment and its impact on the local economy. Your response will be used for academic purpose only and be sure that it will not be transferred to third person and will be kept confidentially*

**General Description**

***Respondent's Name and Address-----***

***Job Title -----***

***Note; Please, tick the "X" marks in the given box***

***Thank You!***

***1. What is your sex?***

❖ ***Male*** ☐

❖ ***Female*** ☐

***2. What is your age?***

***3. What is your marital status?***

❖ *Married*

❖ *Single*

❖ *Widowed*

❖ *Divorce*

**4.What is your academic level?**

❖ Under grade 10

❖ Grade 10/12 completed

❖ TEVET graduate

❖ Diploma

❖ Degree and above

**5.On what you work in the firm?**

❖ Production class

❖ packaging class

❖ Administration class

❖ Marketing class

**6. How many years you have been working in this firm?**

❖ Less than two years

❖ 2—4 years

❖ 4—6 years

❖ More than 6 years

**7. Do you have worked in other firm before this?**

❖ Yes

❖ No

**8. If your response for question no 7.is Yes, for how long you had worked?**

❖ Less than three years

❖ 3—5 years

❖ 5—7years

❖ More than 7years

**9. When you were recruit in this firm, do you got short training or orientation?**

- ❖ Yes ☐
- ❖ No ☐

**10. When you compare your initial and actual income, is there increasement?**

- ❖ Yes ☐
- ❖ No ☐

**11. If your response for question no 10.is Yes , how much you increase your income?**

- ❖ Less than 10% ☐
- ❖ 11%--20% ☐
- ❖ 21%--30% ☐
- ❖ More than 31% ☐

**12. What is the impact of private manufacturing investment on the employment opportunity?**

- ❖ There is good employment opportunity ☐
- ❖ There is less employment opportunity ☐

**13. How many workers work with you in your department?**

- ❖ Less than 10 workers ☐
- ❖ 11—20 workers ☐
- ❖ 21—30 workers ☐
- ❖ More than 30 workers ☐

**14. Depending on the social affairs, are you insured in the firm during working time?**

- ❖ Yes ☐
- ❖ No ☐

**15. If your response for question no 14.is Yes, on what way you insured in the firm?**

- ❖ In the way of pension ☐
- ❖ In the way of provident fund ☐

**16. What is the impact of social affaire policy for the workers who are working in different firms?**

- ❖ They are guarantee when they faced accident ☐
- ❖ There is no difference on the workers' life ☐

**17. Is there any difference your income with the workers of government workers who have the same level with you?**

- ❖ Yes ☐
- ❖ No ☐

**18. If your response for question no 17.is Yes, which is better payment for the workers?**

- ❖ The private manufacturing firm ☐
- ❖ The government sector ☐

**19. If your response for question no 18.is the private manufacturing firm, what is your point of view on the impact of private manufacturing firm for the local economy?**

- ❖ Give the employment opportunity and income generation including production supply to the market. ☐
- ❖ There is no impact on income generation. ☐
- ❖ There is little impact on employment opportunity ☐

**20. What is your incentive in addition to your monthly salary in your working place?**

- ❖ Additional payment for part-time ☐
- ❖ Sometimes there is bonus for us ☐
- ❖ There is no incentive out of our salary ☐

**21. Do you have an opportunity to buy the firm's product in discount price relatively with the market price?**

- ❖ Yes ☐
- ❖ No ☐

**22. For how long time you work in the firm during the working day regularly?**

❖ For 8 hours a day

❖ For 6 hours a day

❖ For 10 hours a day

❖ More than 10 hours

**23. Do you have the right to discuss your affaires which related with your rights with the firms owner?**

❖ Yes

❖ No



## **C. Questions to Collect Secondary data**

### **1. Opportunities for private Manufacturing Investment**

*1.1 What kind of opportunities are found in Mekelle?*

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*1.2. How the private manufacturing investors can use the opportunities of the town?*

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*1.3 What is the impact of the given opportunities for the private manufacturing investors?*

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## **2. Incentives for private Manufacturing Investment**

2.1 What are the incentives which are given for the private manufacturing investors?

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2.2 How the private manufacturing investors can use the incentives of the manufacturing sector?

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2.3 What is the impact of incentives for the private manufacturing sector?

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## **3 Impact of private manufacturing for the local Economy**

3.1 What is the impact of private manufacturing sector

- A. For the employment opportunity?
- B. For the capital increasement of the private manufacturing investors

